NPN ENVIRONMENTAL

ASBESTOS INSPECTION
FORMER ST. LOUIS ORDNANCE PLANT
ST. LOUIS, MISSOURI 63104

Prepared for:

MR. DAVID BREWER, P.G.
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10401 HOLMES ROAD, SUITE 400
KANSAS CITY, MISSOURI 64131

Prepared by:

NPN ENVIRONMENTAL ENGINEERS, INC.
927 HORAN DRIVE
ST. LOUIS, MISSOURI 63026

February 2004
Contract C-03254.F

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QUALITY ASSURANCE/QUALITY CONTROL

Project: Asbestos Inspection
Former St. Louis Ordnance Plant
St. Louis, MO 63104

Project No.: Contract C-03254.F

This report has been prepared on behalf of and for the exclusive use of SCS Engineers solely for the purpose of documenting the above-titled project. This report and all documents contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without written consent of NPN Environmental Engineers, Inc. and SCS Engineers.

As part of NPN Environmental's QA/QC practices and procedures, this report has been reviewed and approved by the following:

Missouri Asbestos Inspector: Greg DeGrande
7028090503MOIR2327 *Gregory K. DeGrande*

QA/QC Manager: Dal Rowe
David B. Rowe, P.E.

It is the professional opinion of Nicolaus P. Neumann, P.E., a Registered Professional Engineer licensed to practice in the State of Missouri, that good environmental engineering practices were employed on this project.

Name: Nicolaus P. Neumann, P.E.
Title: Principal
Signature: Nicolaus P. Neumann
Date: 2-23-04

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REGISTERED PROFESSIONAL ENGINEER

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INTRODUCTION

NPN Environmental was subcontracted by SCS Engineers to conduct an inspection and assess the presence of asbestos-containing material (ACM) at the former St. Louis Ordnance Plant (SLOP), St. Louis, Missouri. Areas inspected include:

Building Series 218 A, B, and C
Building Series 219 B, C, E, F, H, and J
Building 220
Building Series 227 A, B, C, and J through Q (D through H inaccessible)
Building Series 228 A, B, C, E, F, and G (D and M inaccessible)
Building 228 Y
Subsurface tunnels and basements for above-referenced buildings

The limits of the tunnel investigation were from Building 220 to the north, security fence at the Job Corps property to the west, to the basements of Buildings 219A, 219D, and 219G to the east, and to the 227 building series to the south. The Building Series 228 basements were also included. On-site buildings excluded from the scope of work were 219A, 219D, 219G, 236, 228X, and 228W (*Figure 1 – Site Layout*).

The asbestos inspection was conducted by State of Missouri Certified Asbestos Inspectors under the direction of a Missouri Registered Professional Engineer (see *Appendix A – Certifications and Accreditations*) according to Asbestos Hazard Emergency Response Act (AHERA) protocol per 40 CFR Part 763. This report presents the regulatory summary, ACM inspection, and summary and recommendations.

NPN Environmental performed this asbestos inspection January 19 through February 9, 2004. A glossary of terminology and acronyms is provided in *Appendix B – Asbestos Terminology and Acronyms*.

REGULATORY SUMMARY

Asbestos NESHAP

United States Environmental Protection Agency (USEPA) has developed regulations to protect the general public from exposure to airborne contaminants known to be hazardous to human health. Under 40 CFR Part 61, Subpart M (Asbestos NESHAP), the Agency has established standards for demolition, renovation, and waste disposal where ACM is present. An ACM is defined as any material containing more than one percent asbestos. The Missouri Department of Natural Resources (MDNR) and St. Louis Division of Air Pollution Control (St. Louis DAPC) enforce the Federal NESHAP regulations.

For projects that involve demolition and renovation, the requirements of 40 CFR 61.145 must be referenced for applicability, notification requirements, and procedures for

asbestos emission control. All demolition and renovation projects require an asbestos inspection prior to commencement and notification to the Agency if regulated quantities of ACM are present. All demolition projects require notification to the Agency whether or not asbestos is present.

OSHA Employee Exposure – Asbestos

Occupational exposure to asbestos is regulated by the Occupational Safety and Health Administration (OSHA) in general industry under 29 CFR 1910.1001 and construction work under 29 CFR 1926.1101. To establish applicability of these regulations, the presence of asbestos must be determined by analytical testing or presuming materials contain asbestos based on pre-1981 installation date. For a material to be considered ACM, it must contain more than one percent asbestos.

Asbestos exposure in the following situations is regulated by OSHA Construction Standard 29 CFR 1926.1101:

1) *Demolition or salvage of structures where asbestos is present;*
2) *Removal or encapsulation of materials containing asbestos;*
3) *Construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain asbestos;*
4) *Installation of products containing asbestos;*
5) *Asbestos spill/emergency cleanup; and*
6) *Transportation, disposal, storage, containment of and housekeeping activities involving asbestos or products containing asbestos, on the site or location at which construction activities are performed.*
7) *Coverage under this standard shall be based on the nature of the work operation involving asbestos exposure.*

Asbestos exposure in any situation not covered by the OSHA Construction Standard is regulated by OSHA General Industry Standard 29 CFR 1910.1001.

Communication of asbestos hazards to employees and employers is mandated in both General Industry and Construction Standards and includes notification, warning signs/labels, and training.

ACM Inspection

Areas Inspected

Structures to be inspected at the SLOP facility are grouped by building series as identified on *Figure 1*. The scope of the investigation consists of 6 separate series of buildings (totaling 37 structures and basements) and connecting tunnels. Building materials throughout the SLOP site are of uniform color and texture and of the same

construction period. Each building series is similar in layout, construction materials, and construction date.

Homogeneous materials were grouped per building series. Homogeneous materials identified in tunnels were separated from building series and sampled independently. Buildings inspected included Building Series 218, Building Series 219, Building 220, Building Series 227, Building Series 228, Building 228 Y, and Tunnels. The inspection included interior and exterior areas of each structure.

Buildings 218 A, B, and C are brick-walled buildings on a concrete foundation. The roof is clay tile on wood. Interior finishes consist of fiberboard suspended ceiling, ceramic tile applied to brick walls, and two layers of cementitious anti-static flooring on a concrete foundation. Basements in each building are constructed of concrete.

Buildings 219 B, C, E, F, H, and J are constructed of the same materials as the 218 Building Series without basements; however, concrete tunnels run beneath these buildings to accommodate utilities.

Building 220 is a brick building on a concrete foundation with a flat top tar and gravel roof with a white powder base and rolled asphaltic flashing. Interior finishes are the same as Building Series 218 and 219 with a concrete basement. The floor is approximately 70 percent cementitious anti-static material and 30 percent concrete.

Buildings 227 A, B, C, and J through Q are wood-framed structures on a concrete foundation. The roof is clay tile on wood. The interior walls and ceilings of these structures are finished with drywall. The exterior walls are sided with transite shingles. Buildings 227 D through H were inaccessible during the inspection but are assumed to be similar to the other 227 series of buildings for quantification purposes and conclusions in this report.

Buildings 228 A, B, C, E, and F are constructed of the same materials as the 218 Building Series with concrete basements. Buildings 228 D and M were inaccessible during the inspection but are assumed to be similar to the other 228 series of buildings for quantification purposes and conclusions in this report.

Building 228 Y is a wood-framed structure on a concrete foundation with a flat top tar and gravel roof. The interior walls and ceilings are finished with drywall. Flooring consisted of cementitious anti-static material on a concrete foundation. The exterior walls are sided with transite shingles.

Subsurface concrete tunnels ran throughout the facility supplying utilities to each building. Common utilities consisting of insulated pipes are located in these tunnels and each building. The pipe runs supplied steamed heat and other utilities to each building.

All building materials observed as suspect ACM were sampled during this investigation. The inspection was conducted from January 19 through February 9, 2004.

Suspect ACM Classification

Suspect ACM is categorized into one of three groups: surfacing materials, thermal system insulation (TSI), or miscellaneous materials. Surfacing material includes sprayed-on fireproofing and applied material. TSI can consist of pipe and tank insulation. Miscellaneous materials can include ceiling tiles, floor tiles, drywall, cementitious siding, caulking, and roofing materials.

Suspect components encountered at the former SLOP facility during this inspection included the following:

- Surfacing
  - None

- TSI
  - Pipe insulation
  - Pipe lagging
  - Tank insulation

- Miscellaneous
  - Asphaltic coating
  - Caulk/Putty
  - Ceiling panel
  - Ceramic tile
  - Drywall system
  - Electrical insulation
  - Flooring – anti-static
  - Gasket material
  - Glazing
  - Mortar
  - Packing
  - Panel – cementitious
  - Panel – coated metal
  - Panel – fibrous
  - Roofing
  - Seam tape
  - Vapor barrier

Sampling Protocol

Sample Frequency

The asbestos inspection protocol involves identifying suspect ACM and grouping homogeneous material. Bulk samples for each suspect material as described in 40 CFR 763.86 are obtained by an accredited inspector. For surfacing material, the number of samples obtained is based on suspect material quantity: at least 3 samples for each homogeneous material totaling ≤1000 ft^2, at least 5 samples for each homogeneous material >1000 ft^2 and ≤5000 ft^2, and at least 7 samples for each homogeneous material >5000 ft^2. For TSI and miscellaneous material, at least 3 bulk samples are obtained from each homogeneous material. Where large quantities of miscellaneous materials exist (>5000 ft^2), up to 9 bulk samples are collected per AHERA recommendations. Where small quantities of TSI exist (less than 6 linear or square feet), only 1 sample is collected.

Laboratory Analysis

Samples are submitted to an American Industrial Hygiene Association (AIHA) or National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for analysis by Polarized Light Microscopy (PLM). Samples for each suspect material are analyzed by "positive-stop" methodology, i.e., until a positive sample result (>1% asbestos) is found. If a positive result is found, the material is determined to be asbestos containing, and no additional samples of the suspect material are analyzed. A suspect material is considered to be non-asbestos only if all samples of that material contain asbestos in amounts of one percent or less.

Sampling Procedure

When necessary, the asbestos inspector wears personal protective equipment (PPE) to minimize potential exposure to airborne asbestos fibers during bulk sampling. PPE includes a half-face respirator equipped with high-efficiency particulate air (HEPA) filters and disposable coveralls with foot and head covering.

The bulk sample collection protocol is to:

- Don PPE, when necessary
- Spread plastic sheeting on area below sample collection
- Thoroughly wet sample area with amended water (contains wetting surfactant)
- Procure sample under steady air misting
- Place sample in a labeled container
- Seal sample hole with silicone caulking (where applicable)
- Label sample location with corresponding sample number when appropriate
- Wet wipe and/or HEPA vacuum any debris disturbed by sampling operation

Sample Identification

During the investigation, each suspect material is identified with a unique sample number (e.g., 218-B-01-A) where:

218 = building series or building
B = bulk sample
01 = homogenous sample number
A = the first sample collected of that particular homogenous material

Where bulk samples collected encounter a second layer (such as floor tile with mastic), the sample ID is 218-B-01-A-1 for the floor tile and 218-B-01-A-2 for the mastic with corresponding B-1 and C-1 numbering for the second and third samples of the floor tile.

QA/QC Program

The first step in assuring QA/QC is the selection of a competent and reliable laboratory for bulk sample analysis. NPN Environmental selected EMSL Analytical, Inc. (EMSL) in Indianapolis, Indiana because of their accreditation and successful participation in the NVLAP program. EMSL's accreditation is included in *Appendix A*.

For this project, NPN Environmental implemented a QA/QC protocol utilizing an independent laboratory to check 10 percent of all homogenous materials sampled. For the inspection and assessment, NPN Environmental randomly selected homogenous materials for QA/QC analysis at a NVLAP or AIHA accredited laboratory. All QA/QC samples for this report were analyzed by Global Environmental Laboratories, Inc. (Global) in St. Louis, Missouri. Global's accreditation is included in *Appendix A*.

Bulk Sampling Results

During the course of the survey, 142 separate suspect materials were encountered at the former SLOP site. Results are delineated by Building Series as follows:

Building Series 218

During the course of the investigation 36 separate suspect materials were encountered. From the sampling protocol and multiple layers, 92 bulk samples were analyzed. From suspect materials sampled during this survey, 17 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-06, B-07, B-08, B-09, B-23, B-31)
  - Tank insulation (B-19, B-24)

- Miscellaneous
  - Caulk/Putty (B-10, B-12, B-17)
  - Flooring – anti-static (B-05, B-27)
  - Gasket material (B-33)
  - Packing (B-20)
  - Panel – cementitious (B-35)
  - Panel – coated metal (B-04)

Pipe insulation is located throughout all rooms and basements of Buildings A, B, and C. Tank insulation was found on two tanks located in the main basement of each building. Caulk/putty material was found on all windows, door windows, and porthole windows of the three buildings. White anti-static flooring is located beneath red flooring material throughout all three buildings. Gasket material was found on all suspended light fixtures in all three buildings. Packing material was only found in the secondary basement of Buildings A and B. Soffits on all three buildings are cementitious transite panel and all coated metal exterior overhangs are galbestos panels.

Sample results are presented in **Table 1A – Asbestos Bulk Sample Results** and quantities are included in **Table 2A – Location and Quantity of ACM**, located at the end of this report.

Building Series 219

During the course of the investigation 18 separate suspect materials were encountered. From the sampling protocol and multiple layers, 38 bulk samples were analyzed. From suspect materials sampled during this survey, 10 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-07, B-08, B-09, B-10)

- Miscellaneous
  - Caulk/Putty (B-13, B-18)
  - Flooring – anti-static (B-04, B-05, B-06)
  - Glazing (B-11)

Pipe insulation is located in all six buildings of the 219 Series. All doors and windows contain caulk/putty. Red anti-static flooring and white anti-static flooring were found throughout the six buildings. Glazing is located on all windows.

Sample results are presented in **Table 1B – Asbestos Bulk Sample Results** and quantities are included in **Table 2B – Location and Quantity of ACM.**

Building 220

During the course of the investigation 27 separate suspect materials were encountered. From the sampling protocol and multiple layers, 57 bulk samples were analyzed. From suspect materials sampled during this survey, 15 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-16, B-17, B-18, B-19, B-20, B-21)
  - Tank insulation (B-22)

- Miscellaneous
  - Caulk/Putty (B-08, B-24)
  - Flooring – anti-static (B-06, B-07, B-14)
  - Gasket material (B-26)
  - Glazing (B-03)
  - Panel – cementitious (B-05)

Pipe insulation was found on the main level and in the basement of Building 220. One tank with insulation is located in the basement. All windows and doors contain caulk/putty and all windows contain glazing. Red anti-static flooring and white anti-static flooring are located throughout the main level. Gasket material was found on all suspended light fixtures. The fume hood on the main level contains cementitious transite panels.

Sample results are presented in **Table 1C – Asbestos Bulk Sample Results** and quantities are included in **Table 2C – Location and Quantity of ACM**.

Building Series 227

During the course of the investigation 14 separate suspect materials were encountered. From the sampling protocol and multiple layers, 34 bulk samples were analyzed. From suspect materials sampled during this survey, 7 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-07, B-08, B-10, B-12)

- Miscellaneous
  - Caulk/Putty (B-03)
  - Panel – cementitious (B-01)
  - Vapor barrier (B-02)

Pipe insulation is located on interior and exterior piping in all 16 buildings of this series. All doors on all the buildings contain caulk/putty. All 16 buildings contain exterior tarpaper vapor barrier beneath cementitious transite siding.

Sample results are presented in **Table 1D – Asbestos Bulk Sample Results** and quantities are included in **Table 2D – Location and Quantity of ACM.**

Building Series 228

During the course of the investigation 21 separate suspect materials were encountered. From the sampling protocol and multiple layers, 56 bulk samples were analyzed. From suspect materials sampled during this survey, 7 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-16, B-17, B-18, B-19)

- Miscellaneous
  - Caulk/Putty (B-10)
  - Flooring – anti-static (B-04, B-05)

Pipe insulation is located in the basements below the six buildings of this series. Caulk/putty is found on interior doors throughout the buildings. Red anti-static flooring and white anti-static flooring are located throughout the buildings.

Sample results are presented in **Table 1E – Asbestos Bulk Sample Results** and quantities are included in **Table 2E – Location and Quantity of ACM.**

Building 228 Y

During the course of the investigation 19 separate suspect materials were encountered. From the sampling protocol and multiple layers, 35 bulk samples were analyzed. From suspect materials sampled during this survey, 13 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-07, B-08, B-14, B-15, B-16, B-17, B-18, B-19)

- Miscellaneous
  - Caulk/Putty (B-11)
  - Flooring – anti-static (B-04)
  - Gasket material (B-12)
  - Glazing (B-06)
  - Panel – cementitious (B-01)

Pipe insulation is located throughout the building and basement. Caulk/putty was found on interior windows. Red anti-static flooring is located throughout the building. Gasket material is located in the expansion joint of two interior metal walls. Window glazing was found on two interior windows. The exterior of the building has cementitious transite shingles.

Sample results are presented in **Table 1F – Asbestos Bulk Sample Results** and quantities are included in **Table 2F – Location and Quantity of ACM**.

Tunnels

During the course of the investigation 7 separate suspect materials were encountered. From the sampling protocol and multiple layers, 7 bulk samples were analyzed. From suspect materials sampled during this survey, 7 were determined to contain asbestos and include:

- TSI
  - Pipe insulation (B-01, B-02, B-03, B-04, B-05, B-06, B-07)

Pipe insulation is located throughout the tunnel network and continues into basements of several of the building series.

Sample results are presented in **Table 1G – Asbestos Bulk Sample Results** and quantities are included in **Table 2G – Location and Quantity of ACM**.

Facility Overview

The asbestos inspection identified:

- Pipe insulation throughout all buildings and in the tunnels
- Tank insulation in Building Series 218 and Building 220
- Caulk/putty throughout all buildings
- Anti-static flooring in all buildings except Building Series 227
- Gasket material in Building Series 218, Building 220, and Building 228 Y
- Glazing in Building Series 219, Building 220, and Building 228 Y
- Packing in Building Series 218
- Transite cementitious panels in Building Series 218, Building 220, Building Series 228, and Building 228 Y
- Coated metal galbestos roofing in Building Series 218
- Vapor barrier in Building Series 227

A summary of all ACM identified throughout the facility is presented in **Table 3 – Facility ACM**.

Sample results by building series are presented in **Tables 1A through 1G** (located at the end of this report). Included in the tables are suspect material number, classification, material type, location, description, sample number, and results as percent asbestos by visual estimation. Complete analytical results are provided in *Appendix C – Laboratory Results*. The location and quantity of ACM at the facility by building series are identified in **Tables 2A through 2G** located at the end of this text.

ACM Type

ACMs are classified as Friable or Non-Friable materials. Non-Friable ACM is further classified as Category I or Category II. These classifications determine regulatory notifications and work practices.

Friable ACM

Friable ACM may be crumbled, pulverized, or reduced to powder by hand pressure when dry, thus may represent a greater potential for release of airborne fibers than non-friable materials. Friable materials MUST be removed prior to demolition, and the project is classified as an asbestos abatement project if the combined amounts of regulated ACM exceed 160 square feet, 260 linear feet, or 35 cubic feet. Regulations are currently in place for asbestos abatement projects and include regulatory notification, utilizing licensed abatement contractors, third party air monitoring, and clearance sampling prior to reoccupancy. The St. Louis DAPC has established more restrictive notification requirements than NESHAP. In the City of St. Louis, notification is required if quantities of regulated ACM exceed 10 square feet and/or 16 linear feet. All asbestos-containing waste material transported off-site must be accompanied with a waste shipment record to a disposal facility authorized to receive the waste.

Under OSHA, removal or demolition activities involving TSI or surfacing ACM is identified as Class I work and must be completed by trained asbestos workers. Respiratory protection and protective clothing and equipment are required. Specific work practices and controls, along with decontamination procedures, must be followed.

Non-Friable ACM

Under NESHAP, notification and air emissions control requirements are not applicable to Category I and Category II non-friable materials as long as the material is in good condition, has not become friable, and is demolished or removed using methods that will not cause the material to become friable. If the materials are in poor condition or are likely to become friable, they shall be removed prior to demolition, and notification requirements may apply. All ACM waste material transported off-site must be accompanied by a waste shipment record to a disposal facility authorized to receive the waste.

Category I non-friable materials may be removed prior to demolition or may be demolished in place under certain conditions. Category II non-friable materials are evaluated on a case-by-case basis as to whether they need to be removed prior to demolition. If non-friable materials are left in place, the material must remain primarily intact and cannot be crushed by the demolition process. Demolition debris containing ACM should be segregated from other non-ACM debris and transported to an appropriate disposal facility. If the ACM-contaminated debris is not segregated, all demolition debris must be considered ACM waste.

Under OSHA, removal or demolition activities involving miscellaneous ACM (non-surfacing, non-TSI) is identified as Class II work and must be completed by trained asbestos workers or employees with specific work practice training. Applicable portions of the OSHA regulations regarding monitoring and work practices should be followed.

SUMMARY AND RECOMMENDATIONS

A pre-demolition asbestos inspection was conducted by NPN Environmental at the former St. Louis Ordnance Plant, St. Louis, Missouri in January and February 2004. The facility was delineated into specific Building Series (Building Series 218, 219, Building 220, Building Series 227, 228, Building 228 Y) and the tunnel system connecting to all buildings underground as identified on *Figure 1*. Five buildings in the 227 series and two buildings in the 228 series were inaccessible during the site inspection. For quantification purposes and conclusions in this report, these buildings were assumed to be similar to the other buildings in the particular series. The inspection was conducted by State of Missouri Certified Asbestos Inspectors and samples collected were analyzed by EMSL, a NVLAP accredited laboratory; QA/QC samples were analyzed by Global, an AIHA accredited laboratory.

During this asbestos inspection, friable tank insulation, pipe insulation, anti-static flooring, packing, non-friable anti-static flooring, cementitious panels, coated metal panels, caulk/putty, gasket material, and glazing were identified.

Should these ACMs be impacted by demolition or renovation, the NESHAP standard addresses the following:

1. Notification to the regulatory agencies prior to renovation or demolition
2. Procedures for asbestos emission control
3. Waste disposal requirements

The following general guidelines are provided for ACM that will be impacted by building demolition.

Tank and Pipe Insulation

Approximately 460 square feet of insulation was identified on six tanks in the basements of Buildings 218A, B, and C and 100 square feet of insulation was identified on a tank in the basement of Building 220. Approximately 29,500 linear feet of insulation was identified on pipes throughout the entire complex. These materials are classified as Friable TSI in poor to fair condition.

As friable material, the tank and pipe insulation MUST be removed prior to demolition. Notification to St. Louis DAPC is required for removal of the tank insulation. Specific work practices, such as the use of negative-pressure enclosures or glovebag methods, are required under St. Louis DAPC, NESHAP, and OSHA regulations.

Flooring – Anti-Static

Approximately 36,000 square feet of anti-static flooring material was identified in Building Series 218, 219, 228, and Buildings 220 and 228 Y. The top (red) layer is

classified as non-friable Category II material in poor to fair condition. The bottom (white) layer is classified as friable material in poor to good condition.

Category II Non-Friable materials are evaluated on a case-by-case basis as to whether they need to be removed prior to demolition. If the flooring material is dry, hard, and brittle to the point it can be pulverized and reduced to dust during mechanical demolition, it MUST be removed prior to demolition. Since the top (red) layer of flooring materials was observed as dry, hard, and brittle, it MUST be removed prior to demolition. As friable material, the bottom (white) layer of flooring material MUST be removed prior to demolition. Notification to St. Louis DAPC is required for removal of the flooring materials. Specific work practices, such as the use of negative-pressure enclosures are required under St. Louis DAPC, NESHAP, and OSHA regulations.

Panels – Cementitious and Coated Metal

Approximately 3,260 square feet of flat transite sheets on soffits and 13,175 square feet of corrugated galbestos panels on exterior overhangs were identified in Building Series 218. Approximately 90 square feet of transite was identified on a lab fume hood in Building 220, 8,260 square feet of transite shingles as exterior siding on Building Series 227, and 1,100 square feet of transite panels as exterior siding on Building 228 Y. These materials are classified as non-friable Category II materials in poor to good condition.

Category II Non-Friable materials are evaluated on a case-by-case basis as to whether they need to be removed prior to demolition. Since these materials would be rendered friable during mechanical demolition, they MUST be removed prior to demolition. Since many of the panels are broken and in poor condition, notification to St. Louis DAPC is required for removal. Specific work practices, such as the use of negative-pressure enclosures or wet intact removal methods, are required under St. Louis DAPC, NESHAP, and OSHA regulations.

Vapor Barrier

Approximately 8,260 square feet of black felt vapor barrier was identified beneath the exterior transite siding on Building Series 227. This material is classified as Category II Non-Friable material in good condition.

Category II Non-Friable materials are evaluated on a case-by-case basis as to whether they need to be removed prior to demolition. Since this material would be rendered friable during mechanical demolition, it MUST be removed prior to demolition. Since the material could be removed primarily intact, notification to St. Louis DAPC is not required for removal. Specific work practices, such as wet intact removal methods, are required under St. Louis DAPC, NESHAP, and OSHA regulations.

Window Caulk and Glazing

Caulk or glazing was identified on approximately 325 windows in Building Series 218, 219, 228, and Buildings 220 and 228 Y and approximately 315 doors on all buildings except 228 Y. These materials are classified as non-friable Category II materials in poor to good condition.

Category II Non-Friable materials are evaluated on a case-by-case basis as to whether they need to be removed prior to demolition. If the caulk/putty is dry, hard, and brittle to the point it can be pulverized and reduced to dust during mechanical demolition, it MUST be removed prior to demolition. Since the window caulking materials were observed as dry, hard, and brittle, they MUST be removed prior to demolition. It is recommended the entire window frame be removed in one piece. Specific work practices, such as the use of negative-pressure enclosures or wet intact removal methods, are required under St. Louis DAPC, NESHAP, and OSHA regulations.

Gasket Materials

Approximately 235 lights with gasket material were identified in Building Series 218 and Building 220. Approximately 20 linear feet of gasket material was identified in Building 228 Y interior walls. These materials are classified as Category I non-friable ACM in fair to good condition.

For building demolition with asbestos-containing gasket material, the owner may choose one of the following options:

- Remove the asbestos-containing gasket material prior to demolition and have no restrictions during the demolition process. The gasket material should be removed intact (if possible) using wet methods. If chipping is used, it must be completed in a negative-pressure enclosure.

- Demolish the building with the asbestos-containing gasket material in-place; however, the material must remain primarily intact and cannot be crushed during the demolition process. The demolition debris with asbestos-containing gasket material attached should be segregated from other construction debris and transported to a disposal facility willing to accept non-friable ACM. If the material is not segregated, all demolition debris is considered asbestos-containing waste.

Packing Material

Approximately 2 square feet of packing material was identified in the basements of Buildings 218A and B. This material is classified as friable and in fair condition.

As friable material, the packing material MUST be removed prior to demolition. Notification to St. Louis DAPC is required for removal of the packing material. Specific work practices, such as the use of negative-pressure enclosures or glovebag methods, are required under St. Louis DAPC, NESHAP, and OSHA regulations.

LIMITATIONS

This report has been prepared in accordance with generally accepted asbestos management practices and was performed in a professional manner. The conclusions presented in this report are professional opinions based upon visual inspection, evaluation of site conditions at the time of our investigation, and laboratory results obtained from material samples, where collected. Asbestos-containing materials (ACM) are generally heterogeneous in composition. This report assumes homogeneity of materials between sampling locations, therefore does not reflect variations in materials that may actually be present. The conclusions presented in this report reflect only observations made during the survey.

NPN Environmental cannot take responsibility for change in ACM condition since the time of our investigation. The inspection for ACM was conducted in a nondestructive manner. Where present, NPN Environmental attempted inspection of ACM beneath flooring materials, above ceilings, and within wall materials while still maintaining the visual integrity of the building materials. Suspect materials located behind walls or other hidden chases were not identified during this inspection. Should hidden materials be exposed during renovation or demolition activities, work in this area should be avoided until suspect material sampling and analysis is performed.

When sampled, floor tiles and other resin-bound materials may yield false-negative results when analyzed by PLM. Alternative methods (e.g., Transmission Electron Microscopy) may be utilized at the client's discretion to more accurately determine asbestos content.

The liability of NPN Environmental with respect to our findings and conclusions is limited to the scope of the asbestos survey as set forth herein. The findings of this report are applicable and representative of conditions encountered at the subject property on the date of this evaluation and may not represent conditions at a later date.

TABLE 1A
Asbestos Bulk Sample Results
Building Series 218 A, B, and C

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
218-B-01	Flooring – anti-static	Misc	–	Bldg 218A, Rm 119	Red cementitious, no aggregate, floor perimeter and side of walls	218-B-01-A	ND
				Bldg 218A, Rm 108		218-B-01-B	ND
				Bldg 218A, Rm 128		218-B-01-C	ND
				Bldg 218B, Rm 114		218-B-01-D	ND
				Bldg 218B, Rm 124		218-B-01-E	ND
				Bldg 218B, Rm 123		218-B-01-F	ND
				Bldg 218C, Rm 123		218-B-01-G	ND
				Bldg 218C, Rm 115		218-B-01-H	ND
				Bldg 218C, Rm 104		218-B-01-I	ND
218-B-02	Mortar	Misc	–	Bldg 218A, Rm 115	White cement with red brick walls	218-B-02-A	ND
				Bldg 218B, Rm 122		218-B-02-B	ND
				Bldg 218C, Rm 123		218-B-02-C	ND
218-B-03	Roofing	Misc	–	Bldg 218A, Rm 125	Black felt tarpaper beneath red tile	218-B-03-A	ND
				Bldg 218B, Rm 112		218-B-03-B	ND
				Bldg 218C, Rm 102		218-B-03-C	ND
218-B-04	Panel – coated metal	Misc	NF-II	Bldg 218A, Rm 125	Black textured coating over corrugated metal, exterior overhang	218-B-04-A	**25% Chrysotile**
				Bldg 218B, Rm 126		218-B-04-B	NA
				Bldg 218C, Rm 127		218-B-04-C	NA
218-B-05	Flooring – anti-static	Misc	F	Bldg 218A, Rm 108	White aggregate subfloor (beneath 218-B-01 and 218-B-27)	218-B-05-A	ND
				Bldg 218A, Rm 128		218-B-05-B	<1% Chry & Am
				Bldg 218A, Rm 102		218-B-05-C	**2% Chrysotile**
				Bldg 218B, Rm 118		218-B-05-D	NA
				Bldg 218B, Rm 105		218-B-05-E	NA
				Bldg 218B, Rm 102		218-B-05-F	NA
				Bldg 218C, Rm 115		218-B-05-G	NA
				Bldg 218C, Rm 105		218-B-05-H	NA
				Bldg 218C, Rm 116		218-B-05-I	NA

TABLE 1A (cont.)
Asbestos Bulk Sample Results
Building Series 218 A, B, and C

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
218-B-06	Pipe insulation	TSI	F	Bldg 218A, basement	White fibrous with white cloth lagging, pipe runs	218-B-06-A	**50% Chrysotile**
				Bldg 218B, Rm 107		218-B-06-B	NA
				Bldg 218C, Rm 104		218-B-06-C	NA
218-B-07	Pipe insulation	TSI	F	Bldg 218A, basement	White fibrous with white cloth lagging (fittings and elbows of 218-B-06)	218-B-07-A	**50% Chry, 2% Am**
				Bldg 218B, basement		218-B-07-B	NA
				Bldg 218C, basement		218-B-07-C	NA
218-B-08	Pipe insulation	TSI	F	Bldg 218A, basement	White corrugated paper with white cloth lagging, pipe runs	218-B-08-A	**60% Chrysotile**
				Bldg 218B, basement		218-B-08-B	NA
				Bldg 218C, basement		218-B-08-C	**65% Chrysotile**
218-B-09	Pipe insulation	TSI	F	Bldg 218A, basement	White fibrous with white cloth lagging (fittings and elbows of 218-B-08)	218-B-09-A	**25% Chry, 5% Am**
				Bldg 218B, basement		218-B-09-B	NA
				Bldg 218B, Rm 122		218-B-09-C	NA
218-B-10	Caulk/Putty	Misc	NF-II	Bldg 218A, Rm 102	White, brittle caulk, windows	218-B-10-A	**2% Chrysotile**
				Bldg 218B, Rm 104		218-B-10-B	NA
				Bldg 218C, Rm 127		218-B-10-C	NA
					QA/QC samples	218-B-10-A	**5-10% Chrysotile**
						218-B-10-B	NA
						218-B-10-C	NA
218-B-11	Glazing	Misc	–	Bldg 218A, Rm 127	White/gray, brittle glazing, windows	218-B-11-A	ND
				Bldg 218B, Rm 105		218-B-11-B	ND
				Bldg 218C, Rm 127		218-B-11-C	<1% Chrysotile
218-B-12	Caulk/Putty	Misc	NF-II	Bldg 218A, Rm 112	White, brittle caulk, door windows	218-B-12-A	ND
				Bldg 218B, Rm 132		218-B-12-B	ND
				Bldg 218B, Rm 121		218-B-12-C	**4% Chrysotile**
218-B-13	Glazing	Misc	–	Bldg 218A, Rm 120	White, brittle glazing, door windows	218-B-13-A	ND
				Bldg 218B, Rm 126		218-B-13-B	ND
				Bldg 218C, Rm 110		218-B-13-C	ND

TABLE 1A (cont.)
Asbestos Bulk Sample Results
Building Series 218 A, B, and C

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
218-B-14	Roofing	Misc	–	Bldg 218A, Rm 128	Red clay tile	218-B-14-A	ND
				Bldg 218B, Rm 124		218-B-14-B	ND
				Bldg 218B, Rm 104		218-B-14-C	ND
218-B-15	Ceramic tile	Misc	–	Bldg 218A, Rm 126	Yellow glazed tile, walls	218-B-15-A	ND
				Bldg 218B, Rm 120		218-B-15-B	ND
				Bldg 218C, Rm 123		218-B-15-C	ND
218-B-16	Mortar	Misc	–	Bldg 218A, Rm 104	Gray cement, ceramic tile	218-B-16-A	ND
				Bldg 218B, Rm 120		218-B-16-B	ND
				Bldg 218C, Rm 102		218-B-16-C	ND
					QA/QC samples	218-B-16-A	ND
						218-B-16-B	ND
						218-B-16-C	ND
218-B-17	Caulk/Putty	Misc	NF-II	Bldg 218A, Rm 119	White, brittle caulk, round windows	218-B-17-A	**3% Chrysotile**
				Bldg 218B, Rm 116		218-B-17-B	NA
				Bldg 218C, Rm 112		218-B-17-C	NA
218-B-18	Gasket material	Misc	–	Bldg 218A, Rm 119	Black felt gasket, round windows	218-B-18-A	ND
				Bldg 218B, Rm 114		218-B-18-B	ND
				Bldg 218B, Rm 113		218-B-18-C	ND
218-B-19	Tank insulation	TSI	F	Bldg 218A, basement	White fibrous with white cloth lagging	218-B-19-A	**40% Chry, 20% Am**
				Bldg 218B, basement		218-B-19-B	NA
				Bldg 218C, basement		218-B-19-C	NA
218-B-20	Packing	Misc	F	Bldg 218A, basement	White cementitious packing	218-B-20-A	**50% Chry, 5% Am**
				Bldg 218B, basement		218-B-20-B	NA
				Bldg 218A, basement		218-B-20-C	NA

TABLE 1A (cont.)
Asbestos Bulk Sample Results
Building Series 218 A, B, and C

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
218-B-21	Electrical insulation	Misc	–	Bldg 218A, basement	White cloth covering	218-B-21-A	ND
				Bldg 218B, basement		218-B-21-B	ND
				Bldg 218C, basement		218-B-21-C	ND
218-B-22	Electrical insulation	Misc	–	Bldg 218A, basement	Brown paper covering	218-B-22-A	ND
				Bldg 218B, basement		218-B-22-B	ND
				Bldg 218C, basement		218-B-22-C	ND
218-B-23	Pipe insulation	TSI	F	Bldg 218A, basement	White fibrous with white cloth lagging (fittings and elbows on fiberglass runs)	218-B-23-A	**40% Chrysotile**
				Bldg 218B, basement		218-B-23-B	NA
				Bldg 218B, basement		218-B-23-C	NA
218-B-24	Tank insulation	TSI	F	Bldg 218A, basement	White powder with white cloth lagging	218-B-24-A	**40% Chrysotile**
				Bldg 218B, basement		218-B-24-B	NA
				Bldg 218C, basement		218-B-24-C	NA
218-B-25	Ceiling panel	Misc	–	Bldg 218A, Rm 102	White painted brown fibrous panel	218-B-25-A	ND
				Bldg 218B, Rm 104		218-B-25-B	ND
				Bldg 218C, Rm 102		218-B-25-C	ND
218-B-26	Roofing	Misc	–	Bldg 218A, Rm 102	Green rolled roofing	218-B-26-A	ND
						218-B-26-B	ND
						218-B-26-C	ND
218-B-27	Flooring – anti-static	Misc	NF-II	Bldg 218A, Rm 128, floor	Red cementitious with gray/brown aggregate	218-B-27-A	**2% Chrysotile**
				Bldg 218A, Rm 102, floor		218-B-27-B	NA
				Bldg 218A, Rm 104, floor		218-B-27-C	NA
				Bldg 218B, Rm 128B, wall		218-B-27-D	NA
				Bldg 218B, Rm 105, floor		218-B-27-E	NA
				Bldg 218B, Rm 102, floor		218-B-27-F	NA
				Bldg 218C, Rm 128C, wall		218-B-27-G	NA
				Bldg 218C, Rm 128B, floor		218-B-27-H	NA
				Bldg 218C, Rm 119, floor		218-B-27-I	NA

TABLE 1A (cont.)
Asbestos Bulk Sample Results
Building Series 218 A, B, and C

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
218-B-28	Gasket material	Misc	–	Bldg 218B, Rm 128C	Black felt, square window	218-B-28-A	ND
				Bldg 218B, Rm 128B		218-B-28-B	ND
				Bldg 218C, Rm 128D		218-B-28-C	ND
218-B-29	Caulk/Putty	Misc	–	Bldg 218B, Rm 128C	White brittle caulk, square window	218-B-29-A	ND
				Bldg 218B, Rm 128B		218-B-29-B	ND
				Bldg 218B, Rm 128D		218-B-29-C	ND
218-B-30	Roofing	Misc	–	Bldg 218B, Rm 102	Red rolled roofing	218-B-30-A	ND
				Bldg 218B, Rm 102		218-B-30-B	ND
				Bldg 218C, Rm 104		218-B-30-C	ND
					QA/QC samples	218-B-30-A	ND
						218-B-30-B	ND
						218-B-30-C	ND
218-B-31	Pipe insulation	TSI	F	Bldg 218C, Rm 116	Gray multi-layered paper with white cloth lagging, pipe run	218-B-31-A	**30% Chrysotile**
				Bldg 218A, Rm 106		218-B-31-B	NA
				Bldg 218B, Rm 115		218-B-31-C	NA
218-B-32	Pipe lagging	TSI	–	Bldg 218C, basement	White cloth lagging, fiberglass pipe run	218-B-32-A	ND
				Bldg 218B, basement		218-B-32-B	ND
				Bldg 218A, basement		218-B-32-C	ND
218-B-33	Gasket material	Misc	NF-I	Bldg 218A, Rm 122	White fibrous gasket, light fixture	218-B-33-A	**45% Chrysotile**
				Bldg 218B, Rm 118		218-B-33-B	NA
				Bldg 218C, Rm 105		218-B-33-C	NA
218-B-34	Pipe insulation	TSI	–	Bldg 218A, Rms 107 & 108	Black wrap, exterior pipes	218-B-34-A	ND
				Bldg 218B, Rms 107 & 108		218-B-34-B	ND
				Bldg 218C, Rms 107 & 108		218-B-34-C	ND
218-B-35	Panel – cementitious	Misc	NF-II	Bldg 218A, exterior soffit	Gray fibrous panel	218-B-35-A	**20% Chrysotile**
				Bldg 218B, exterior soffit		218-B-35-B	NA
				Bldg 218C, exterior soffit		218-B-35-C	NA

TABLE 1A (cont.)
Asbestos Bulk Sample Results
Building Series 218 A, B, and C

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
218-B-36	Asphaltic coating	Misc	–	Bldg 218A, roof brackets	Black fibrous coating, brackets on exterior overhang	218-B-36-A	ND
				Bldg 218B, roof brackets		218-B-36-B	ND
				Bldg 218C, roof brackets		218-B-36-C	ND

Notes: *ND = None Detected*
NA = Not Analyzed
ISQ = Insufficient Sample Quantity

Material Classification: *Surf = Surfacing*
TSI = Thermal System Insulation
Misc = Miscellaneous

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 1B
Asbestos Bulk Sample Results
Building Series 219 B, C, E, F, H, and J

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
219-B-01	Panel – fibrous	Misc	–	Bldg 219C	White painted brown fibrous panel, ceiling	219-B-01-A	ND
				Bldg 219E		219-B-01-B	ND
				Bldg 219J		219-B-01-C	ND
219-B-02	Ceramic tile – wall	Misc	–	Bldg 219C, W wall	Yellow glazed tile	219-B-02-A	ND
				Bldg 219E, S wall		219-B-02-B	ND
				Bldg 219J, E wall		219-B-02-C	ND
219-B-03	Mortar	Misc	–	Bldg 219C, W wall	Gray cement, ceramic tile	219-B-03-A	ND
				Bldg 219E, E wall		219-B-03-B	ND
				Bldg 219J, E wall		219-B-03-B	ND
219-B-04	Flooring – anti-static	Misc	NF-II	Bldg 219C, central floor	Red cementitious with gray/brown aggregate	219-B-04-A	**2% Chrysotile**
				Bldg 219E, central floor		219-B-04-B	NA
				Bldg 219J, central floor		219-B-04-C	NA
					QA/QC samples	219-B-04-A	**1-3% Chrysotile**
						219-B-04-B	NA
						219-B-04-C	NA
219-B-05	Flooring – anti-static	Misc	F	Bldg 219C, central floor	White aggregate subfloor (beneath 219-B-04)	219-B-05-A	**5% Chrysotile**
				Bldg 219E, central floor		219-B-05-B	NA
				Bldg 219J, central floor		219-B-05-C	NA
219-B-06	Flooring – anti-static	Misc	NF-II	Bldg 219C, doorway	Red cementitious with gray/brown aggregate, floor perimeter and side of walls	219-B-06-A	**2% Chrysotile**
				Bldg 219E, doorway		219-B-06-B	NA
				Bldg 219J, doorway		219-B-06-C	NA
219-B-07	Pipe insulation	TSI	F	Bldg 219C, E side	Gray multi-layered paper with white cloth lagging, pipe runs	219-B-07-A	**5% Chrysotile**
				Bldg 219E, E wall		219-B-07-B	NA
				Bldg 219J, E doorway		219-B-07-C	NA
219-B-08	Pipe insulation	TSI	F	Bldg 219C, E side	White fibrous with white cloth lagging (fittings & elbows on 219-B-07)	219-B-08-A	**2% Chry, 3% Am**
				Bldg 219E, E wall		219-B-08-B	NA
				Bldg 219J, E doorway		219-B-08-C	NA

TABLE 1B (cont.)
Asbestos Bulk Sample Results
Building Series 219 B, C, E, F, H, and J

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
219-B-09	Pipe insulation	TSI	F	Bldg 219C, S side	White fibrous with white cloth lagging, pipe runs	219-B-09-A	**8% Chry, 10% Am**
				Bldg 219E, S wall		219-B-09-B	NA
				Bldg 219J, SE corner		219-B-09-C	NA
219-B-10	Pipe insulation	TSI	F	Bldg 219C, S side	White fibrous with white cloth lagging (fittings & elbows on 219-B-09)	219-B-10-A	**25% Chry, 10% Am**
				Bldg 219E, S wall		219-B-10-B	NA
				Bldg 219J, SE corner		219-B-10-C	NA
219-B-11	Glazing	Misc	NF-II	Bldg 219C, N wall	White/beige, brittle glazing, window	219-B-11-A	**3% Chrysotile**
				Bldg 219F, S wall		219-B-11-B	NA
				Bldg 219J, S wall		219-B-11-C	NA
219-B-12	Caulk/Putty	Misc	–	Bldg 219C, N wall	Gray, brittle caulk, window	219-B-12-A	ND
				Bldg 219F, S wall		219-B-12-B	ND
				Bldg 219J, S wall		219-B-12-C	ND
					QA/QC samples	219-B-12-A	ND
						219-B-12-B	ND
						219-B-12-C	ND
219-B-13	Caulk/Putty	Misc	NF-II	Bldg 219C, doorway	White/gray, brittle caulk, door	219-B-13-A	**3% Chrysotile**
				Bldg 219E, doorway		219-B-13-B	NA
				Bldg 219J, doorway		219-B-13-C	NA
219-B-14	Roofing	Misc	–	Bldg 219C, over doorway	Green rolled roofing, perimeter flashing	219-B-14-A	ND
				Bldg 219E, NE corner		219-B-14-B	ND
				Bldg 219J, over E door		219-B-14-C	ND
219-B-15	Roofing	Misc	–	Bldg 219C, over doorway	Red clay tile	219-B-15-A	ND
				Bldg 219E, NE corner		219-B-15-B	ND
				Bldg 219J, over E door		219-B-15-C	ND

TABLE 1B (cont.)
Asbestos Bulk Sample Results
Building Series 219 B, C, E, F, H, and J

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
219-B-16	Roofing	Misc	–	Bldg 219C, over doorway	Black felt tarpaper (beneath 219-B-15)	219-B-16-A	ND
				Bldg 219E, NE side		219-B-16-B	ND
				Bldg 219J, over E door		219-B-16-C	ND
219-B-17	Mortar	Misc	–	Bldg 219C, SE corner	Gray cement, red brick walls	219-B-17-A	ND
				Bldg 219E, doorway		219-B-17-B	ND
				Bldg 219J, above door		219-B-17-C	ND
219-B-18	Caulk/Putty	Misc	NF-II	Bldg 219C, N side	Beige/gray, brittle caulk, exterior window	219-B-18-A	**2% Chrysotile**
				Bldg 219F, S side		219-B-18-B	NA
				Bldg 219J, S side		219-B-18-C	NA

Notes: *ND = None Detected*
NA = Not Analyzed
ISQ = Insufficient Sample Quantity

Material Classification: *Surf = Surfacing*
TSI = Thermal System Insulation
Misc = Miscellaneous

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 1C
Asbestos Bulk Sample Results
Building 220

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
220-B-01	Ceramic tile	Misc	–	W wall, N of door	Yellow glazed tile, walls	220-B-01-A	ND
				Central corridor		220-B-01-B	ND
				E wall		220-B-01-C	ND
220-B-02	Mortar	Misc	–	W wall, N of door	Gray cement, ceramic tile	220-B-02-A	ND
				Central corridor, NS		220-B-02-B	ND
				E wall		220-B-02-C	ND
220-B-03	Glazing	Misc	NF-II	W wall, N of door	Off-white, brittle glazing, window	220-B-03-A	ND
				S wall, E corner		220-B-03-B	**2% Chrysotile**
				N wall, men's room		220-B-03-B	NA
220-B-04	Caulk/Putty	Misc	–	W wall, N of door	Gray, brittle caulk, window	220-B-04-A	ND
				S wall, E corner		220-B-04-B	ND
				N wall, men's room		220-B-04-C	ND
220-B-05	Panel – cementitious	Misc	NF-II	SW corner	Gray, fibrous panel, fume hood	220-B-05-A	**25% Chrysotile**
				NW corner		220-B-05-B	NA
				NE corner		220-B-05-C	NA
220-B-06	Flooring – anti-static	Misc	NF-II	W side, N of door	Red cementitious with gray/brown aggregate	220-B-06-A	**5% Chrysotile**
				S side, central		220-B-06-B	NA
				N side, central		220-B-06-C	NA
220-B-07	Flooring – anti-static	Misc	F	N side, N of door	White aggregate subfloor (beneath 220-B-06)	220-B-07-A	**6% Chrysotile**
				S side, central		220-B-07-B	NA
				N side		220-B-07-C	NA
					QA/QC samples	220-B-07-A	**1-3% Chrysotile**
						220-B-07-B	NA
						220-B-07-C	NA
220-B-08	Caulk/Putty	Misc	NF-II	Central corridor, S door	Brown/gray, brittle caulk	220-B-08-A	**2% Chrysotile**
				W room, E door		220-B-08-B	NA
				Central corridor, E door		220-B-08-C	NA

TABLE 1C (cont.)
Asbestos Bulk Sample Results
Building 220

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
220-B-09	Roofing	Misc	–	NW side	Red rolled roofing, flashing	220-B-09-A	ND
				SW side		220-B-09-B	ND
				NE side		220-B-09-C	ND
220-B-10	Roofing	Misc	–	NW, middle	Black tar over gray powder	220-B-10-A	ND
				SW, middle		220-B-10-B	ND
				NE, middle		220-B-10-C	ND
220-B-11	Roofing	Misc	–	NW side	Gray, powdery, beneath flashing	220-B-11-A	ND
				SW side		220-B-11-B	ND
				NE side		220-B-11-C	ND
220-B-12	Roofing	Misc	–	NW side	Black flashing	220-B-12-A	ND
				SW side		220-B-12-B	ND
				NE side		220-B-12-C	ND
220-B-13	Ceramic tile	Misc	–	S wall, women's restroom	Brown glazed tile, walls	220-B-13-A	ND
				E wall, women's restroom		220-B-13-B	ND
				N wall, corridor		220-B-13-C	ND
220-B-14	Flooring – anti-static	Misc	NF-II	W room, front of exterior door	Red cementitious with gray/brown aggregate, around perimeter	220-B-14-A	**2% Chrysotile**
				W room, N of exterior door		220-B-14-B	NA
				W room, NW corner		220-B-14-C	NA
					QA/QC samples	220-B-14-A	**1-3% Chrysotile**
						220-B-15-B	NA
						220-B-15-C	NA
220-B-15	Flooring – anti-static	Misc	–	W room, central column	Red cementitious with yellow flecks, around columns	220-B-15-A	ND
				W room, E column		220-B-15-B	ND
				W room, central column		220-B-15-C	ND
220-B-16	Pipe insulation	TSI	F	Basement, central, SW corner	White fibrous with white cloth lagging, pipe runs	220-B-16-A	**12% Chry, 13% Am**
				Basement, SW corner		220-B-16-B	NA
				Basement, SE corner		220-B-16-C	NA

TABLE 1C (cont.)
Asbestos Bulk Sample Results
Building 220

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
220-B-17	Pipe insulation	TSI	F	Basement, central, SW corner	White fibrous with white cloth lagging (fittings & elbows on 220-B-16)	220-B-17-A	**11% Chry, 14% Am**
				Basement, SW corner		220-B-17-B	NA
				Basement, SE corner		220-B-17-C	NA
220-B-18	Pipe insulation	TSI	F	Basement, SE corner	White corrugated paper, pipe runs	220-B-18-A	**55% Chrysotile**
				Basement, NE corner		220-B-18-B	NA
				Bldg 220J, S side		220-B-18-C	NA
220-B-19	Pipe insulation	TSI	F	Basement, SE corner	White fibrous with white cloth lagging (fittings & elbows on 220-B-18)	220-B-19-A	**18% Chry, 7% Am**
				Basement, NE corner		220-B-19-B	NA
				Basement, E central		220-B-19-C	NA
220-B-20	Pipe insulation	TSI	F	Basement, N central/E	Gray multi-layered paper with white cloth lagging, pipe runs	220-B-20-A	**5% Chrysotile**
				Basement, NE corner		220-B-20-B	NA
				Basement, central N		220-B-20-C	NA
220-B-21	Pipe insulation	TSI	F	Basement, N central/E	White/brown fibrous with white cloth lagging (fittings & elbows on 220-B-20)	220-B-21-A	**14% Chry, 6% Am**
				Basement, NE corner		220-B-21-B	NA
				Basement, N central		220-B-21-C	NA
220-B-22	Tank insulation	TSI	F	S basement, N side	White fibrous with white cloth lagging	220-B-22-A	**12% Chry, 8% Am**
				S basement, E end		220-B-22-B	NA
				S basement, W end		220-B-22-C	NA
220-B-23	Mortar	Misc	–	SE side	Gray cement, red brick walls	220-B-23-A	ND
				SW side		220-B-23-B	ND
				NW side		220-B-23-C	ND
					QA/QC samples	220-B-23-A	ND
						220-B-23-B	ND
						220-B-23-C	ND

TABLE 1C (cont.)
Asbestos Bulk Sample Results
Building 220

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
220-B-24	Caulk/Putty	Misc	NF-II	N, lower level, S wall	White/beige, brittle caulk, windows	220-B-24-A	**2% Chrysotile**
				SW corner		220-B-24-B	NA
				S/SE		220-B-24-C	NA
220-B-25	Electrical insulation	Misc	–	Basement, E electrical box	Brown cloth covering	220-B-25-A	ND
						220-B-25-B	ND
						220-B-25-C	ND
220-B-26	Gasket material	Misc	NF-II	Large W room	Fluorescent light fixtures	220-B-26-A	**25% Chrysotile**
						220-B-26-B	NA
						220-B-26-C	NA
220-B-27	Gasket material	Misc	–	Large W room	Black felt on fume hood window	220-B-27-A	ND
						220-B-27-B	ND
						220-B-27-C	ND

Notes: *ND = None Detected*
NA = Not Analyzed
ISQ = Insufficient Sample Quantity

Material Classification: *Surf = Surfacing*
TSI = Thermal System Insulation
Misc = Miscellaneous

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 1D
Asbestos Bulk Sample Results
Building 227 A through H and J through Q

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
227-B-01	Panel – cementitious	Misc	NF-II	Bldg 227O, rear	White cementitious shingles, exterior siding	227-B-01-A	**35% Chrysotile**
				Bldg 227M, side		227-B-01-B	NA
				Bldg 227B, rear		227-B-01-C	NA
227-B-02	Vapor barrier	Misc	NF-II	Bldg 227Q, side	Black felt tarpaper (beneath 227-B-01)	227-B-02-A	**65% Chrysotile**
				Bldg 227L, rear		227-B-02-B	NA
				Bldg 227C, front		227-B-02-C	NA
227-B-03	Caulk/Putty	Misc	NF-II	Bldg 227O	White, brittle caulk, doors	227-B-03-A	**2% Chrysotile**
				Bldg 227J		227-B-03-B	NA
				Bldg 227A		227-B-03-B	NA
227-B-04	Roofing	Misc	–	Bldg 227P	Red clay tile	227-B-04-A	ND
				Bldg 227M		227-B-04-B	ND
				Bldg 227C		227-B-04-C	ND
227-B-05	Drywall system	Misc	–	Bldg 227N	White fibrous panel with cloth tape	227-B-05-A	ND
				Bldg 227L		227-B-05-B	ND
				Bldg 227B		227-B-05-C	ND
227-B-06	Caulk/Putty	Misc	–	Bldg 227P	White, brittle caulk, windows	227-B-06-A	ND
				Bldg 227J		227-B-06-B	ND
				Bldg 227B, side		227-B-06-C	ND
227-B-07	Pipe insulation	TSI	F	Bldg 227Q	White corrugated paper with white cloth lagging, pipe runs	227-B-07-A	**30% Chrysotile**
				Bldg 227K		227-B-07-B	NA
				Bldg 227A		227-B-07-C	NA
227-B-08	Pipe insulation	TSI	F	Bldg 227N	White, fibrous with white cloth lagging (fittings & elbows on 227-B-07)	227-B-08-A	**50% Chry, 15% Am**
				Bldg 227J, hair layer		227-B-08-B	NA
				Bldg 227B		227-B-08-C	NA

TABLE 1D (cont.)
Asbestos Bulk Sample Results
Building 227 A through H and J through Q

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
227-B-09	Glazing	Misc	–	Bldg 227P	White, brittle glazing, window	227-B-09-A	ND
				Bldg 227M		227-B-09-B	ND
				Bldg 227C, side		227-B-09-C	ND
					QA/QC samples	227-B-09-A	ND
						227-B-09-B	ND
						227-B-09-C	ND
227-B-10	Pipe insulation	TSI	F	Bldg 227O	Black asphaltic wrap, pipe runs	227-B-10-A	**15% Chrysotile**
				Bldg 227J		227-B-10-B	NA
				Bldg 227A		227-B-10-C	NA
227-B-11	Roofing	Misc	–	Bldg 227Q, front	Black felt tarpaper, beneath red tile	227-B-11-A	ND
				Bldg 227M, side		227-B-11-B	ND
				Bldg 227C, front		227-B-11-C	ND
					QA/QC samples	227-B-11-A	ND
						227-B-11-B	ND
						227-B-11-C	ND
227-B-12	Pipe insulation	TSI	F	Bldg 227P, rear	Black asphaltic wrap (fittings & elbows on 227-B-10)	227-B-12-A	**8% Chrysotile**
				Bldg 227K, rear		227-B-12-B	NA
				Bldg 227A		227-B-12-C	NA
227-B-13	Roofing	Misc	–	Bldg 227Q, front	Red cementitious aggregate, beneath roof tile	227-B-13-A	ND
				Bldg 227L, front		227-B-13-B	ND
				Bldg 227C, front		227-B-13-C	ND
227-B-14	Panel – fibrous	Misc	–	Bldg 227N, rear window	Brown, fibrous panel in window	227-B-14-A	ND
						227-B-14-B	ND
						227-B-14-C	ND

Notes: *ND = None Detected*; *NA = Not Analyzed*; *ISQ = Insufficient Sample Quantity*

Material Classification: *Surf = Surfacing*; *TSI = Thermal System Insulation*; *Misc = Miscellaneous*

ACM Type: *F = Friable*; *NF-I = Category I, Non-Friable*; *NF-II = Category II, Non-Friable*

TABLE 1E
Asbestos Bulk Sample Results
Building 228 A, B, C, E, F, and G

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
228-B-01	Panel – fibrous	Misc	–	Bldg 228E, E room	White fibrous panels, ceilings	228-B-01-A	ND
				Bldg 228A, N room, central		228-B-01-B	ND
				Bldg 228G, N room, central		228-B-01-C	ND
228-B-02	Ceramic tile	Misc	–	Bldg 228E, E room, W wall	Yellow glazed tile, walls	228-B-02-A	ND
				Bldg 228A, N room, S wall		228-B-02-B	ND
				Bldg 228G, N room, N wall		228-B-02-C	ND
228-B-03	Mortar	Misc	–	Bldg 228E, E room, W wall	Gray cement, ceramic tile	228-B-03-A	ND
				Bldg 228A, N room, S wall		228-B-03-B	ND
				Bldg 228G, N room, N wall		228-B-03-C	ND
228-B-04	Flooring – anti-static	Misc	NF-II	Bldg 228E, E room, central	Red cementitious with gray/brown aggregate	228-B-04-A	**3% Chrysotile**
				Bldg 228A, N room, central		228-B-04-B	NA
				Bldg 228G, N room, central		228-B-04-C	NA
228-B-05	Flooring – anti-static	Misc	F	Bldg 228E, E room, central	White aggregate subfloor (beneath 228-B-04)	228-B-05-A	**5% Chrysotile**
				Bldg 228A, N room, central		228-B-05-B	NA
				Bldg 228G, N room, central		228-B-05-C	NA
228-B-06	Flooring – anti-static	Misc	–	Bldg 228E, E room, E side	Red cementitious with yellow flecks, perimeter	228-B-06-A	ND
				Bldg 228A, W doorway		228-B-06-B	ND
				Bldg 228G, W doorway		228-B-06-C	ND
228-B-07	Flooring – anti-static	Misc	–	Bldg 228E, E room, E side	White cementitious subfloor, no aggregate (beneath 228-B-06)	228-B-07-A	ND
				Bldg 228A, W doorway		228-B-07-B	ND
				Bldg 228G, W doorway		228-B-07-C	ND
228-B-08	Glazing	Misc	–	Bldg 228E, E room, N window	White/beige, brittle glazing, window	228-B-08-A	ND
				Bldg 228A, W window		228-B-08-B	ND
				Bldg 228G, W window		228-B-08-C	ND
228-B-09	Caulk/Putty	Misc	–	Bldg 228E, E room, N window	Beige/gray, brittle caulk, window interior	228-B-09-A	ND
				Bldg 228A, W window		228-B-09-B	ND
				Bldg 228G, W window		228-B-09-C	ND

TABLE 1E (cont.)
Asbestos Bulk Sample Results
Building 228 A, B, C, E, F, and G

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
228-B-10	Caulk/Putty	Misc	NF-II	Bldg 228E, W room	Gray, brittle caulk, interior doors	228-B-10-A	**5% Chrysotile**
				Bldg 228A, S		228-B-10-B	NA
				Bldg 228G, S		228-B-10-C	NA
					QA/QC samples	228-B-10-A	**5-10% Chrysotile**
						228-B-10-B	NA
						228-B-10-C	NA
228-B-11	Caulk/Putty	Misc	–	Bldg 228E, W door	White, brittle caulk, exterior doors	228-B-11-A	ND
				Bldg 228A, W door		228-B-11-B	ND
				Bldg 228G, W door		228-B-11-C	ND
228-B-12	Caulk/Putty	Misc	–	Bldg 228E, N window	Gray/white, brittle caulk, window exterior	228-B-12-A	ND
				Bldg 228A, W window		228-B-12-B	ND
				Bldg 228G, N window		228-B-12-C	ND
228-B-13	Mortar	Misc	–	Bldg 228E, N side	Gray cement, red brick walls	228-B-13-A	ND
				Bldg 228A, W side		228-B-13-B	ND
				Bldg 228G, NE corner		228-B-13-C	ND
228-B-14	Roofing	Misc	–	Bldg 228E, N side	Red clay tile	228-B-14-A	ND
				Bldg 228A, SW corner		228-B-14-B	ND
				Bldg 228G, S side		228-B-14-C	ND
228-B-15	Roofing	Misc	–	Bldg 228E, N side	Black felt tarpaper (beneath 228-B-14)	228-B-15-A	ND
				Bldg 228A, SW corner		228-B-15-B	ND
				Bldg 228G, S side		228-B-15-C	ND
228-B-16	Pipe insulation	TSI	F	Bldg 228E, S basement	White multi-layered insulation with white cloth lagging, pipe runs	228-B-16-A	**15% Chrysotile**
				Bldg 228B, W basement		228-B-16-B	NA
				Bldg 228B, E basement		228-B-16-C	NA
228-B-17	Pipe insulation	TSI	F	Bldg 228E, SE basement	White fibrous with white cloth lagging (fittings & elbows on 228-B-16)	228-B-17-A	**5% Chry, 5% Am**
				Bldg 228E, W basement		228-B-17-B	NA
				Bldg 228D, E basement		228-B-17-C	NA

TABLE 1E (cont.)
Asbestos Bulk Sample Results
Building 228 A, B, C, E, F, and G

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
228-B-18	Pipe insulation	TSI	F	Bldg 228E, NE basement	White fibrous with white cloth lagging, pipe runs	228-B-18-A	**5% Chry, 15% Am**
				Bldg 228B, W basement		228-B-18-B	NA
				Bldg 228B, E tunnel, basement		228-B-18-C	NA
228-B-19	Pipe insulation	TSI	F	Bldg 228E, NE basement	White fibrous with white cloth lagging (fittings & elbows on 228-B-18)	228-B-19-A	**25% Chry, 25% Am**
				Bldg 228B, W basement		228-B-19-B	NA
				Bldg 228B, E tunnel, basement		228-B-19-C	NA
228-B-20	Roofing	Misc	-	Bldg 228B, SW corner	Red cementitious aggregate (beneath 228-B-14)	228-B-20-A	ND
				Bldg 228A, W side		228-B-20-B	ND
				Bldg 228G, S side		228-B-20-C	ND
					QA/QC samples	228-B-20-A	ND
						228-B-20-B	ND
						228-B-20-C	ND
228-B-21	Seam tape	Misc	-	Bldg 228A	Tan cloth tape, ceiling panel	228-B-21-A	ND
				Bldg 228B		228-B-21-B	ND
				Bldg 228E		228-B-21-C	ND
					QA/QC samples	228-B-21-A	ND
						228-B-21-B	ND
						228-B-21-C	ND

Notes: *ND = None Detected*
NA = Not Analyzed
ISQ = Insufficient Sample Quantity

Material Classification: *Surf = Surfacing*
TSI = Thermal System Insulation
Misc = Miscellaneous

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 1F
Asbestos Bulk Sample Results
Building 228 Y

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
228Y-B-01	Panel – cementitious	Misc	NF-II	E wall	White cementitious shingles, exterior siding	228Y-B-01-A	**20% Chrysotile**
				W wall		228Y-B-01-B	NA
				N wall		228Y-B-01-C	NA
228Y-B-02	Caulk/Putty	Misc	–	W wall	White, brittle caulk, door	228Y-B-02-A	ND
				W wall		228Y-B-02-B	ND
				S wall		228Y-B-02-C	ND
					QA/QC samples	228Y-B-02-A	ND
						228Y-B-02-B	ND
						228Y-B-02-C	ND
228Y-B-03	Caulk/Putty	Misc	–	E wall	White, brittle caulk, window	228Y-B-03-A	ND
				E wall		228Y-B-03-B	ND
				W wall		228Y-B-03-B	ND
228Y-B-04	Flooring – anti-static	Misc	NF-II	N side	Red cementitious with gray/brown aggregate	228Y-B-04-A	**3% Chrysotile**
				Center		228Y-B-04-B	NA
				S side		228Y-B-04-C	NA
228Y-B-05	Vapor barrier	Misc	–	W wall	Black felt tarpaper (beneath 228Y-B-01)	228Y-B-05-A	ND
				W wall		228Y-B-05-B	ND
				E wall		228Y-B-05-C	ND
228Y-B-06	Glazing	Misc	NF-II	Interior window	Tan, brittle glazing, window	228Y-B-06-A	**3% Chrysotile**
						228Y-B-06-B	NA
						228Y-B-06-C	NA
228Y-B-07	Pipe insulation	TSI	F	S section	White fibrous with white cloth lagging, pipe runs	228Y-B-07-A	**5% Chry, 15% Am**
				Center section		228Y-B-07-B	NA
				N section		228Y-B-07-C	NA
228Y-B-08	Pipe insulation	TSI	F	S	White fibrous with white cloth lagging (fittings & elbows on 228Y-B-07)	228Y-B-08-A	**5% Chry, 15% Am**
				Center		228Y-B-08-B	NA
				N		228Y-B-08-C	NA

TABLE 1F (cont.)
Asbestos Bulk Sample Results
Building 228 Y

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
228Y-B-09	Seam tape	Misc	–	E wall	Beige cloth tape, wall panels	228Y-B-09-A	ND
				E wall		228Y-B-09-B	ND
				W wall		228Y-B-09-C	ND
228Y-B-10	Roofing	Misc	–	S	Gravel over black tar & felt	228Y-B-10-A	ND
				Center		228Y-B-10-B	ND
				N		228Y-B-10-C	ND
228Y-B-11	Caulk/Putty	Misc	NF-II	Interior window	Beige, brittle caulk, window	228Y-B-11-A	**3% Chrysotile**
						228Y-B-11-B	NA
						228Y-B-11-C	NA
228Y-B-12	Gasket material	Misc	NF-I	Interior metal wall	Beige, soft, friable gasket	228Y-B-12-A	**5% Chrysotile**
						228Y-B-12-B	NA
						228Y-B-12-C	NA
					QA/QC samples	228Y-B-12-A	**5-10% Chrysotile**
						228Y-B-12-B	NA
						228Y-B-12-C	NA
228Y-B-13	Caulk/Putty	Misc	–	Basement door	White, soft, friable caulk	228Y-B-13-A	ND
						228Y-B-13-B	ND
						228Y-B-13-C	ND
228Y-B-14	Pipe insulation	TSI	F	Basement, N wall	White, corrugated paper with white cloth lagging, pipe runs	228Y-B-14-A	**15% Chrysotile**
						228Y-B-14-B	NA
						228Y-B-14-C	NA
228Y-B-15	Pipe insulation	TSI	F	Basement	Gray multi-layered paper with white cloth lagging, pipe runs	228Y-B-15-A	**15% Chrysotile**
						228Y-B-15-B	NA
						228Y-B-15-C	NA
228Y-B-16	Pipe insulation	TSI	F	Basement	White fibrous with white cloth lagging, pipe runs	228Y-B-16-A	**15% Chry, 15% Am**
						228Y-B-16-B	NA
						228Y-B-16-C	NA

TABLE 1F (cont.)
Asbestos Bulk Sample Results
Building 228 Y

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
228Y-B-17	Pipe insulation	TSI	F	Basement	White powdery with white cloth lagging (fittings & elbows on 228Y-B-16)	228Y-B-17-A	**20% Chry, 15% Am**
						228Y-B-17-B	NA
						228Y-B-17-C	NA
228Y-B-18	Pipe insulation	TSI	F	Basement	Gray fibrous with white cloth lagging (fittings & elbows on 228Y-B-14)	228Y-B-18-A	**10% Chry, 15% Am**
						228Y-B-18-B	NA
						228Y-B-18-C	NA
228Y-B-19	Pipe insulation	TSI	F	Basement	Beige fibrous, hair with white cloth lagging (fittings & elbows on 228Y-B-15)	228Y-B-19-A	**5% Chry, 5% Am**
						228Y-B-19-B	NA
						228Y-B-19-C	NA

Notes: *ND = None Detected*
NA = Not Analyzed
ISQ = Insufficient Sample Quantity

Material Classification: *Surf = Surfacing*
TSI = Thermal System Insulation
Misc = Miscellaneous

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 1G
Asbestos Bulk Sample Results
Tunnels

Material Number	Suspect Material	Class	ACM Type	Sample Location	Description	Sample ID	Results
T-B-01	Pipe insulation	TSI	F	Near Bldg 218B	White corrugated paper with white cloth lagging, pipe run	T-B-01-A	**65% Chrysotile**
				Near Bldg 218A		T-B-01-B	NA
				Near Bldg 218A		T-B-01-C	NA
					QA/QC samples	T-B-01-A	**50-60% Chrysotile**
						T-B-01-B	NA
						T-B-01-C	NA
T-B-02	Pipe insulation	TSI	F	Near Bldg 218B	Gray fibrous with white cloth lagging (fittings & elbows of T-B-01)	T-B-02-A	**50% Chrysotile**
				Near Bldg 218A		T-B-02-B	NA
				Near Bldg 218A		T-B-02-C	NA
T-B-03	Pipe insulation	TSI	F	Near Bldg 218A	White fibrous with white cloth lagging	T-B-03-A	**15% Chry, 10% Am**
				Near Bldg 281B		T-B-03-B	NA
				Near Bldg 218C		T-B-03-B	NA
T-B-04	Pipe insulation	TSI	F	Near Bldg 218A	Gray multi-layered paper with white cloth lagging, pipe run	T-B-04-A	**15% Chrysotile**
				Near Bldg 218B		T-B-04-B	NA
				Near Bldg 218C		T-B-04-C	NA
T-B-05	Pipe insulation	TSI	F	Near Bldg 218A	White fibrous, hair with white cloth lagging (fittings & elbows on T-B-04)	T-B-05-A	**20% Chry, 10% Am**
				Near Bldg 218B		T-B-05-B	NA
				Near Bldg 218C		T-B-05-C	NA
T-B-06	Pipe insulation	TSI	F	Near Bldg 218A	White fibrous with white cloth lagging (fittings & elbows on T-B-03)	T-B-06-A	**27% Chry, 3% Am**
				Near Bldg 218C		T-B-06-B	NA
				Near Bldg 218B		T-B-06-C	NA
T-B-07	Pipe insulation	TSI	F	Building 218 basements	White fibrous with white cloth lagging (fittings & elbows on fiberglass runs)	218-B-23-A	**40% Chrysotile**
						218-B-23-B	NA
						218-B-23-C	NA

Notes: *ND = None Detected*
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ISQ = Insufficient Sample Quantity

Material Classification: *Surf = Surfacing*
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Misc = Miscellaneous

ACM Type: F = Friable
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2A
Location and Quantity of ACM
Building Series 218 A, B, and C

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
218-B-04	Panels – coated metal	Black textured coating over corrugated metal, exterior overhang	NF-II	Building 218 A, B, and C	Fair	13,175 ft^2
218-B-05	Flooring – anti-static	White aggregate subfloor (beneath 218-B-01)	F	Building 218 A, B, and C	Fair	26,900 ft^2
218-B-06	Pipe insulation	White fibrous with white cloth lagging, pipe runs	F	Building 218 A, B, and C	Poor	8,100 lf
218-B-07	Pipe insulation	White fibrous with white cloth lagging (fittings and elbows of 218-B-06)	F	Building 218 A, B, and C	Poor	Included w/ 218-B-06
218-B-08	Pipe insulation	White corrugated paper with white cloth lagging, pipe runs	F	Building 218 A, B, and C	Poor	6,200 lf
218-B-09	Pipe insulation	White fibrous with white cloth lagging (fittings and elbows of 218-B-08)	F	Building 218 A, B, and C	Poor	Included w/ 218-B-08
218-B-10	Caulk/Putty	White, brittle caulk, windows	NF-II	Building 218 A, B, and C	Poor	240 windows
218-B-12	Caulk/Putty	White, brittle caulk, door windows	NF-II	Building 218 A, B, and C	Poor	264 doors
218-B-17	Caulk/Putty	White, brittle caulk, round windows	NF-II	Building 218 A, B, and C	Poor	43 windows
218-B-19	Tank insulation	White fibrous with white cloth lagging	F	Building 218 Series, basements	Poor	325 ft^2
218-B-20	Packing	White cementitious packing	F	Building 218 A and B; basements	Fair	2 ft^2
218-B-23	Pipe insulation	White fibrous with white cloth lagging (fittings and elbows on fiberglass runs)	F	Building Series 218, basements	Poor	20 fittings
218-B-24	Tank insulation	White powder with white cloth lagging	F	Building Series 218, basements	Poor	135 ft^2

TABLE 2A (cont.)
Location and Quantity of ACM
Building Series 218 A, B, and C

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
218-B-27	Flooring – anti-static	Red cementitious with gray/brown aggregate	NF-II	Building 218 A, B, and C	Poor	Included w/ 218-B-05
218-B-31	Pipe insulation	Gray multi-layered paper with white cloth lagging, pipe run	F	Building 218 A, B, and C	Poor	490 lf
218-B-33	Gasket material	White fibrous gasket, light fixture	NF-I	Building 218 A, B, and C	Fair	190 lights
218-B-35	Panel – cementitious	Gray fibrous panel	NF-II	Building 218 A, B, and C, exterior soffit	Poor	3,260 ft^2

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2B
Location and Quantity of ACM
Building Series 219 B, C, E, F, H, and J

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
219-B-04	Flooring – anti-static	Red cementitious with gray/brown aggregate	NF-II	Building 219 B, C, E, F, H, and J, central floor	Poor	1,950 ft^2
219-B-05	Flooring – anti-static	White aggregate subfloor (beneath 219-B-04)	F	Building 219 B, C, E, F, H, and J, central floor	Poor	Included w/ 218-B-04
219-B-06	Flooring – anti-static	Red cementitious w/ gray/brown aggregate, flr perimeter & side of walls	NF-II	Building 219 B, C, E, F, H, and J, doorway	Poor	435 ft^2
219-B-07	Pipe insulation	Gray multi-layered paper with white cloth lagging, pipe runs	F	Building 219 B, C, E, F, H, and J, East	Poor	440 lf
219-B-08	Pipe insulation	White fibrous with white cloth lagging (fittings & elbows on 219-B-07)	F	Building 219 B, C, E, F, H, and J, East	Poor	Included w/ 219-B-07
219-B-09	Pipe insulation	White fibrous with white cloth lagging, pipe runs	F	Building 219 B, C, E, F, H, and J, South and Southeast	Poor	195 lf
219-B-10	Pipe insulation	White fibrous with white cloth lagging (fittings & elbows on 219-B-09)	F	Building 219 B, C, E, F, H, and J, South and Southeast	Poor	Included w/ 219-B-09
219-B-11	Glazing	White/beige, brittle glazing, window	NF-II	Building 219 B, C, E, F, H, and J, North and South	Poor	12 windows
219-B-13	Caulk/Putty	White/gray, brittle caulk, door	NF-II	Building 219 B, C, E, F, H, and J doorway	Poor	6 doors
219-B-18	Caulk/Putty	Beige/gray, brittle caulk, exterior windows	NF-II	Building 219 B, C, E, F, H, and J, North and South	Poor	Included w/ 219-B-11

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2C
Location and Quantity of ACM
Building 220

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
220-B-03	Glazing	Off-white, brittle glazing, window	NF-II	N of door, E corner, men's room	Poor	26 windows
220-B-05	Panel – cementitious	Gray, fibrous panel, fume hood	NF-II	SW, NW, and NE corners	Fair	90 ft^2
220-B-06	Flooring – anti-static	Red cementitious with gray/brown aggregate	NF-II	N of door, central	Poor	2,900 ft^2
220-B-07	Flooring – anti-static	White aggregate subfloor (beneath 220-B-06)	F	N of door, central	Poor	Included w/ 220-B-06
220-B-08	Caulk/Putty	Brown/gray, brittle caulk	NF-II	Central corridor, W room	Poor	12 doors
220-B-14	Flooring – anti-static	Red cementitious with gray/brown aggregate, around perimeter	NF-II	W room	Poor	500 ft^2
220-B-16	Pipe insulation	White fibrous with white cloth lagging, pipe runs	F	Basement	Poor	735 lf
220-B-17	Pipe insulation	White fibrous with white cloth lagging (fittings & elbows on 220-B-16)	F	Basement	Poor	Included w/ 220-B-16
220-B-18	Pipe insulation	White corrugated paper, pipe runs	F	Basement, Building 220J	Poor	320 lf
220-B-19	Pipe insulation	White fibrous with white cloth lagging (fittings & elbows on 220-B-18)	F	Basement	Poor	Included w/ 220-B-18
220-B-20	Pipe insulation	Gray multi-layered paper with white cloth lagging, pipe runs	F	Basement	Poor	400 lf
220-B-21	Pipe insulation	White/brown fibrous with white cloth lagging (fittings & elbows on 220-B-20)	F	Basement	Poor	Included w/ 220-B-20
220-B-22	Tank insulation	White fibrous with white cloth lagging	F	S basement	Poor	100 ft^2

TABLE 2C
Location and Quantity of ACM
Building 220

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
220-B-24	Caulk/Putty	White/beige, brittle caulk, windows	NF-II	N lower level, SW corner, S/SE	Poor	Included w/ 220-B-03
220-B-26	Gasket material	Fluorescent light fixtures	NF-I	W room	Fair	45 lights

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2D
Location and Quantity of ACM
Building 227 A through H and J through Q

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
227-B-01	Panel – cementitious	White cementitious shingles, exterior siding	NF-II	Building 227 O, M, and B	Good	8,260 ft^2
227-B-02	Vapor barrier	Black felt tarpaper (beneath 227-B-01)	NF-II	Building 227 Q, L, and C	Good	8,260 ft^2
227-B-03	Caulk/Putty	White, brittle caulk, doors	NF-II	Building 227 O, J, and A	Fair	16 doors
227-B-07	Pipe insulation	White corrugated paper with white cloth lagging, pipe runs	F	Building 227 Q, K, and A	Fair	65 lf
227-B-08	Pipe insulation	White, fibrous with white cloth lagging (fittings & elbows on 227-B-07)	F	Building 227 N, J, and B	Fair	Included w/ 227-B-07
227-B-10	Pipe insulation	Black asphaltic wrap, pipe runs	F	Building 227 O, J, and A	Poor	1,275 lf
227-B-12	Pipe insulation	Black asphaltic wrap (fittings & elbows on 227-B-10)	F	Building 227 P, K, and A	Poor	Included w/ 227-B-10

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2E
Location and Quantity of ACM
Building 228 A, B, C, E, F, and G

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
228-B-04	Flooring – anti-static	Red cementitious with gray/brown aggregate	NF-II	Building 228 A, B, C, D, E, F, and G	Poor	2,890 ft^2
228-B-05	Flooring – anti-static	White aggregate subfloor (beneath 228-B-04)	F	Building 228 A, B, C, D, E, F, and G	Poor	Included w/ 228-B-04
228-B-10	Caulk/Putty	Gray, brittle caulk, interior doors	NF-II	Building 228 A, B, C, D, E, F, and G	Fair	17 doors
228-B-16	Pipe insulation	White multi-layered insulation with white cloth lagging, pipe runs	F	Building Series 228, basements	Poor	300 lf
228-B-17	Pipe insulation	White, fibrous with white cloth lagging (fittings & elbows on 228-B-16)	F	Building Series 228, basements	Poor	Included w/ 228-B-16
228-B-18	Pipe insulation	White fibrous with white cloth lagging, pipe runs	F	Building Series 228, basements	Poor	1,300 lf
228-B-19	Pipe insulation	White fibrous with white cloth lagging (fittings & elbows on 228-B-18)	F	Building Series 228, basements	Poor	Included w/ 228-B-18

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2F
Location and Quantity of ACM
Building 228 Y

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
228Y-B-01	Panel – cementitious	White cementitious shingles, exterior siding	NF-II	E, W, and N walls	Good	1,100 ft^2
228Y-B-04	Flooring – anti-static	Red cementitious with gray/brown aggregate	NF-II	N, S sides and center	Poor	490 ft^2
228Y-B-06	Glazing	Tan, brittle glazing, window	NF-II	Interior window	Good	2 windows
228Y-B-07	Pipe insulation	White fibrous with white cloth lagging, pipe runs	F	S, center, and N sections	Fair	320 lf
228Y-B-08	Pipe insulation	White, fibrous with white cloth lagging (fittings & elbows on 228Y-B-07)	F	S, center, and N	Fair	Included w/ 228Y-B-07
228Y-B-11	Caulk/Putty	Beige, brittle caulk, window	NF-II	Interior window	Good	2 windows
228Y-B-12	Gasket material	Beige, soft, friable gasket	NF-I	Interior metal wall	Good	20 lf
228Y-B-14	Pipe insulation	White, corrugated paper with white cloth lagging, pipe runs	F	Basement	Poor	120 lf
228Y-B-15	Pipe insulation	Gray multi-layered paper with white cloth lagging, pipe runs	F	Basement	Poor	210 lf
228Y-B-16	Pipe insulation	White fibrous with white cloth lagging, pipe runs	F	Basement	Poor	1,030 lf
228Y-B-17	Pipe insulation	White powdery with white cloth lagging (fittings & elbows on 228Y-B-16)	F	Basement	Poor	Included w/ 228Y-B-16
228Y-B-18	Pipe insulation	Gray fibrous with white cloth lagging (fittings & elbows on 228Y-B-14)	F	Basement	Poor	Included w/ 228Y-B-14
228Y-B-19	Pipe insulation	Beige fibrous, hair with white cloth lagging (fittings & elbows on 22Y-B-15)	F	Basement	Poor	Included w/ 228Y-B-15

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 2G
Location and Quantity of ACM
Tunnels

Material Number	Material	Description	ACM Type	Location	Condition	Approximate Quantity
T-B-01	Pipe insulation	White corrugated paper with white cloth lagging, pipe run	F	Tunnels	Poor	2,550 lf
T-B-02	Pipe insulation	Gray fibrous with white cloth lagging (fittings & elbows of T-B-01)	F	Tunnels	Poor	Included w/ T-B-01
T-B-03	Pipe insulation	White fibrous with white cloth lagging	F	Tunnels	Poor	2,400 lf
T-B-04	Pipe insulation	Gray multi-layered paper with white cloth lagging, pipe run	F	Tunnels	Poor	2,050 lf
T-B-05	Pipe insulation	White, fibrous, hair with white cloth lagging (fittings & elbows on T-B-04)	F	Tunnels	Poor	Included w/ T-B-04
T-B-06	Pipe insulation	White fibrous with white cloth lagging (fittings & elbows on T-B-03)	F	Tunnels	Poor	Included w/ T-B-03
T-B-07	Pipe insulation	White fibrous with white cloth lagging (fittings and elbows on fiberglass runs)	F	Tunnels (sampled as 218-B-23)	Poor	925 lf

ACM Type: *F = Friable*
NF-I = Category I, Non-Friable
NF-II = Category II, Non-Friable

TABLE 3
Facility ACM

Material	ACM Type	Location							
		Building Series 218	Building Series 219	Building 220	Building Series 227	Building Series 228	Building Series 228 Y	Tunnels	Total
Pipe insulation (ln ft)	F	14,810	635	1,455	1,340	1,600	1,680	7,925	29,445
Flooring – anti-static (ft^2)	F & NF-II	26,900	2,385	3,400	—	2,890	490	—	36,065
Panel – coated metal (ft^2)	NF-II	13,175	—	—	—	—	—	—	13,175
Panel – cementitious (ft^2)	NF-II	3,260	—	90	8,260	—	1,100	—	12,710
Vapor barrier (ft^2)	NF-II	—	—	—	8,260	—	—	—	8,260
Tank insulation (ft^2)	F	460	—	100	—	—	—	—	560
Caulk/Putty – doors	NF-II	264	6	12	16	17	—	—	315
Caulk/Putty & glazing – windows	NF-II	283	12	26	—	—	4	—	325
Gasket material – lights	NF-I	190	—	45	—	—	—	—	235
Gasket material – walls (ln ft)	NF-I	—	—	—	—	—	20	—	20
Packing (ft^2)	F	2	—	—	—	—	—	—	2

Unscanned Items

A map or maps that could not be scanned
exist with this document
or as a document
To view the maps, please contact the
Superfund Records Center

APPENDIX A

Certifications and Accreditations

Expiration Date : **9/4/2004**

Approval Date: **9/5/2003**

Certificate Number : **7028090503MOIR2327**

Social Security Number : **499-66-3241**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Gregory K. DeGrande

has successfully completed the requirements for certification as an **INSPECTOR**. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

9/16/2003
Date

Director of Air Pollution Control Program

Expiration Date : **10/27/2004**

Approval Date: **10/28/2003**

Certificate Number : **7108102803MOIR2714**

Social Security Number : **244-88-9455**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Lisa E. Hosey

has successfully completed the requirements for certification as an **INSPECTOR**. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

11/14/2003

Date

Director of Air Pollution Control Program

Expiration Date : **5/1/2004**

Approval Date: **5/2/2003**

Certificate Number : **7028050203MOII10166**

Social Security Number : **493-60-8921**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Ruth C. Mannebach

has successfully completed the requirements for certification as an **INSPECTOR**. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

5/22/2003

Date

Director of Air Pollution Control Program

Expiration Date : **6/3/2004**

Approval Date: **6/4/2003**

Certificate Number : **7028060403MOII10242**

Social Security Number : **017-56-6611**

Missouri State Certificate for Asbestos Related Occupations

issued by Department of Natural Resources
P.O. Box 176
Jefferson City, MO 65102
Phone (573) 751-4817

Stephen Carroll Sleeper

has successfully completed the requirements for certification as an **INSPECTOR**. This Missouri State Certification is subject to review and the director may deny, suspend or revoke the certification per RSMo chapter 643.230.

6/13/2003

Date

Director of Air Pollution Control Program

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ISO/IEC 17025:1999
ISO 9002:1994

Certificate of Accreditation

DEPARTMENT OF COMMERCE ★ UNITED STATES OF AMERICA ★

EMSL ANALYTICAL, INC.
INDIANAPOLIS, IN

is recognized by the National Voluntary Laboratory Accreditation Program for satisfactory compliance with criteria set forth in NIST Handbook 150:2001, all requirements of ISO/IEC 17025:1999, and relevant requirements of ISO 9002:1994. Accreditation is awarded for specific services, listed on the Scope of Accreditation, for:

BULK ASBESTOS FIBER ANALYSIS

March 31, 2004
Effective through

For the National Institute of Standards and Technology
NVLAP Lab Code: 200188-0

NVLAP-01C (06-01)

The American Industrial Hygiene Association

acknowledges that

Global Environmental Laboratories

St. Louis, MO

Laboratory #102636

OVER TWENTY FIVE YEARS 25 OF ACCREDITING LABS AIHA

has fulfilled the requirements of the AIHA Laboratory Quality Assurance Programs (LQAP), thereby, conforming to the ISO/IEC 17025 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories*. The above named laboratory has been accredited by AIHA in the following:

ACCREDITATION PROGRAMS

☑ **INDUSTRIAL HYGIENE**	Accreditation Expires: 04/01/05
☑ **ENVIRONMENTAL LEAD**	Accreditation Expires: 04/01/05
☐ **ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires:
☐ **FOOD**	Accreditation Expires:
☐ **OTHER**	Accreditation Expires:

Specific categories of testing, within each Accreditation Program, for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with LQAP requirements. This certificate is not valid without the attached Scope of Accreditation.

Dawn D. Thomas, ASQ Certified Quality Mgr.
Chairperson, Analytical Accreditation Board

Henry B. Tuck, CIH, CSP, PhD, ROH
President, AIHA

APPENDIX B

Asbestos Terminology and Acronyms

ASBESTOS TERMINOLOGY AND ACRONYMS

Asbestos	Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered. Asbestos also includes PACM, as defined below.
Asbestos-Containing Material (ACM)	Any material containing more than one percent asbestos.
Building/Facility Owner	The legal entity, including a lessee, which exercises control over management and record keeping functions relating to a building and/or facility in which activities take place.
Category I Non-Friable ACM	Asbestos-containing packings, gaskets, resilient floor covering and asphalt roofing products containing more than one percent asbestos as determined by Polarized light Microscopy (PLM) that, when dry, cannot be crumbled, pulverized or reduced to powder by hand pressure.
Category II Non-Friable ACM	Any material, excluding Category I Non-Friable ACM, containing more than one percent asbestos as determined by PLM that, when dry, cannot be crumbled, pulverized, or reduced to powder with hand pressure – examples include transite panels and piping.
Class I Asbestos Work	Activities involving the removal of TSI and surfacing ACM and PACM.
Class II Asbestos Work	Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

Class III Asbestos Work	Repair and maintenance operations, where ACM, including TSI and surfacing ACM or PACM, is likely to be disturbed.
Class IV Asbestos Work	Maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II and III activities.
Competent Person	One who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure and who has the authority to take prompt corrective measures to eliminate them. An individual who for Class I and Class II work is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR part 763) for supervisor, or its equivalent and, for Class III and Class IV work, who is trained in a manner consistent with EPA requirements for training.
Friable ACM	Any material that contains greater than one-percent asbestos, and which can be crumbled, pulverized, or reduced to powder by hand pressure. This may also include previously non-friable material that becomes broken or damaged by mechanical force.
Homogeneous Area	An area of surfacing material, thermal system insulation, or miscellaneous material that is uniform in color and texture.
In Poor Condition	The binding of the material is losing its integrity as indicated by peeling, cracking, or crumbling of the material.
Miscellaneous ACM	Interior asbestos-containing building material on structural components, structural members or fixtures, such as floor and ceiling tiles; does not include surfacing material or thermal system insulation.

APPENDIX C

Laboratory Results

- EMSL
- Global (QA/QC Samples)

Polarized Light Microscopy (PLM)	Commonly 100x magnification. Present EPA recommended method for determination of asbestiform mineral fibers in building materials (bulk samples).
Presumed Asbestos-Containing Material (PACM)	Thermal system insulation and surfacing material found in buildings constructed no later than 1980.
Regulated Asbestos-Containing Material (RACM)	Friable asbestos material, Category I nonfriable ACM that has become friable or has been subjected to sanding, grinding, cutting, or abrading, or Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition.
Surfacing ACM	Asbestos-containing material that is sprayed-on, troweled-on or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.
Thermal System Insulation (TSI)	Asbestos-containing material applied to pipes, fittings, boilers, breeching, tanks, ducts or other interior structural components to prevent heat loss or gain or water condensation.

EMSL

EMSL Analytical
2001 East 52nd St., Indianapolis, IN 46205
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Attn: R. Mannebach
NPN Environmental Engineers, Inc.
927 Horan Drive
Fenton, MO 63026
Fax: (636) 343-8192 Phone: (636) 343-1300
Project: C-03254-O

Customer ID: NPNE50
Customer PO:
Received: 01/21/04 8:43 AM

EMSL Order: 160400495
EMSL Proj:
Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218B-01-A *160400495-0001*		Red Non-Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected
218B-01-B *160400495-0002*		Red Non-Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected
218B-01-C *160400495-0003*		Red Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected
[illegible]01-D *160400495-0004*		Red Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected
218B-01-E *160400495-0005*		Red Fibrous Homogeneous	Crushed	2% Cellulose	98% Non-fibrous (other)	None Detected
218B-01-F *160400495-0006*		Red Fibrous Homogeneous	Crushed	3% Cellulose	97% Non-fibrous (other)	None Detected
218B-01-G *160400495-0007*		Red Fibrous Homogeneous	Crushed	3% Cellulose	97% Non-fibrous (other)	None Detected
218B-01-H *160400495-0008*		Red Non-Fibrous Homogeneous	Crushed	3% Cellulose	97% Non-fibrous (other)	None Detected
218B-01-I *160400495-0009*		Red Non-Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (75)
Richard Harding (34)

or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.
Analysis performed by EMSL Indianapolis (NVLAP #200188-0)

EMSL Analytical
2001 East 52nd St., Indianapolis, IN 46205
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Attn: R. Mannebach
NPN Environmental Engineers, Inc.
927 Horan Drive
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Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218B-02-A *160400495-0010*		Gray Non-Fibrous Homogeneous	Crushed	<1% Cellulose	50% Quartz 50% Non-fibrous (other)	None Detected
218B-02-B *160400495-0011*		Gray Non-Fibrous Homogeneous	Crushed	<1% Cellulose	50% Quartz 50% Non-fibrous (other)	None Detected
218B-02-C *160400495-0012*		Gray Non-Fibrous Homogeneous	Crushed	<1% Cellulose	50% Quartz 50% Non-fibrous (other)	None Detected
[illegible]03-A *160400495-0013*		Black Fibrous Homogeneous	Dissolved	5% Synthetic 40% Cellulose	55% Non-fibrous (other)	None Detected
218B-03-B *160400495-0014*		Black Fibrous Homogeneous	Dissolved	5% Synthetic 40% Cellulose	55% Non-fibrous (other)	None Detected
218B-03-C *160400495-0015*		Black Fibrous Homogeneous	Dissolved	5% Synthetic 40% Cellulose	55% Non-fibrous (other)	None Detected
218B-04-A *160400495-0016*		Black Fibrous Homogeneous	Teased		75% Non-fibrous (other)	25% Chrysotile
218B-04-B *160400495-0017*						Not Analyzed
218B-04-C *160400495-0018*						Not Analyzed

Analyst(s)

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Richard Harding (34)

or other approved signatory

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Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos % Type
218B-05-A *160400495-0019*		Tan Non-Fibrous Homogeneous	Crushed	3%	Cellulose	97%	Non-fibrous (other)	None Detected
218B-05-B *160400495-0020*		Tan Fibrous Homogeneous	Crushed ** Possible sample contamination.			100%	Non-fibrous (other)	<1% Chrysotile <1% Amosite
218B-05-C *160400495-0021*		Red/White Non-Fibrous Heterogeneous	Crushed			20% 78%	Quartz Non-fibrous (other)	2% Chrysotile
[illegible]05-D *160400495-0022*								Not Analyzed
218B-05-E *160400495-0023*								Not Analyzed
218B-05-F *160400495-0024*								Not Analyzed
218B-05-G *160400495-0025*								Not Analyzed
218B-05-H *160400495-0026*								Not Analyzed
218B-05-I *160400495-0027*								Not Analyzed

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
218B-06-A *160400495-0028*		White/Rust Fibrous Heterogeneous	Teased			50%	Non-fibrous (other)	**50% Chrysotile**
218B-06-B *160400495-0029*								**Not Analyzed**
218B-06-C *160400495-0030*								**Not Analyzed**
[illegible]-07-A [illegible]*0495-0031*		White/Rust Fibrous Heterogeneous	Teased	15%	Min. Wool	33%	Non-fibrous (other)	**50% Chrysotile** **2% Amosite**
218B-07-B *160400495-0032*								**Not Analyzed**
218B-07-C *160400495-0033*								**Not Analyzed**
218B-08-A *160400495-0034*		White/Tan Fibrous Homogeneous	Teased	3%	Cellulose	37%	Non-fibrous (other)	**60% Chrysotile**
218B-08-B *160400495-0035*								**Not Analyzed**
218B-08-C *160400495-0036*								**NOT Submitted**

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218B-09-A *160400495-0037*		White/Gray Fibrous Heterogeneous	Teased		70% Non-fibrous (other)	25% Chrysotile 5% Amosite
218B-09-B *160400495-0038*						Not Analyzed
218B-09-C *160400495-0039*						Not Analyzed
[illegible]10-A *160400495-0040*		Tan Non-Fibrous Homogeneous	Dissolved		98% Non-fibrous (other)	2% Chrysotile
218B-10-B *160400495-0041*						Not Analyzed
218B-10-C *160400495-0042*						Not Analyzed
218B-11-A *160400495-0043*		Tan Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
218B-11-B *160400495-0044*		Tan Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
218B-11-C *160400495-0045*		Tan Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	<1% Chrysotile

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Non-Asbestos Fibrous	Non-Asbestos %	Non-Asbestos Non-Fibrous	Asbestos % Type
218B-12-A *160400495-0046*		White/Tan Non-Fibrous Homogeneous	Dissolved	5%	Wollastonite	95%	Non-fibrous (other)	**None Detected**
218B-12-B *160400495-0047*		Tan Non-Fibrous Homogeneous	Dissolved	5%	Wollastonite	95%	Non-fibrous (other)	**None Detected**
218B-12-C *160400495-0048*		White/Tan Non-Fibrous Heterogeneous	Dissolved			96%	Non-fibrous (other)	**4% Chrysotile**
[redacted]13-A *160400495-0049*		Green Non-Fibrous Homogeneous	Dissolved			100%	Non-fibrous (other)	**None Detected**
218B-13-B *160400495-0050*		Green Non-Fibrous Homogeneous	Dissolved			100%	Non-fibrous (other)	**None Detected**
218B-13-C *160400495-0051*		Green Non-Fibrous Homogeneous	Dissolved			100%	Non-fibrous (other)	**None Detected**
218B-14-A *160400495-0052*		Red/Black Fibrous Heterogeneous	Crushed	15%	Min. Wool	85%	Non-fibrous (other)	**None Detected**
218B-14-B *160400495-0053*		Red Non-Fibrous Homogeneous	Crushed			100%	Non-fibrous (other)	**None Detected**
218B-14-C *160400495-0054*		Red Non-Fibrous Homogeneous	Crushed			100%	Non-fibrous (other)	**None Detected**

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218B-15-A *160400495-0055*		Tan Non-Fibrous Homogeneous	Crushed		15% Quartz 85% Non-fibrous (other)	None Detected
218B-15-B *160400495-0056*		Tan Non-Fibrous Homogeneous	Crushed		15% Quartz 85% Non-fibrous (other)	None Detected
218B-15-C *160400495-0057*		Tan Non-Fibrous Homogeneous	Crushed		15% Quartz 85% Non-fibrous (other)	None Detected
[redacted]16-A *160400495-0058*		Gray Non-Fibrous Homogeneous	Crushed		50% Quartz 50% Non-fibrous (other)	None Detected
218B-16-B *160400495-0059*		Gray Non-Fibrous Homogeneous	Crushed		50% Quartz 50% Non-fibrous (other)	None Detected
218B-16-C *160400495-0060*		Gray Non-Fibrous Homogeneous	Crushed		50% Quartz 50% Non-fibrous (other)	None Detected
218B-17-A *160400495-0061*		Gray Fibrous Homogeneous	Crushed		97% Non-fibrous (other)	3% Chrysotile
218B-17-B *160400495-0062*						Not Analyzed
218B-17-C *160400495-0063*						Not Analyzed

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
218B-18-A *160400495-0064*		Black Fibrous Homogeneous	Teased	95% Synthetic	5% Non-fibrous (other)	None Detected
218B-18-B *160400495-0065*		Black Fibrous Homogeneous	Teased	95% Synthetic	5% Non-fibrous (other)	None Detected
218B-18-C *160400495-0066*		Black Fibrous Homogeneous	Teased	95% Synthetic	5% Non-fibrous (other)	None Detected
[redacted]19-A *160400495-0067*		White/Gray Fibrous Homogeneous	Teased		40% Non-fibrous (other)	40% Chrysotile 20% Amosite
218B-19-B *160400495-0068*						Not Analyzed
218B-19-C *160400495-0069*						Not Analyzed
218B-20-A *160400495-0070*		White/Gray Fibrous Heterogeneous	Teased		45% Non-fibrous (other)	50% Chrysotile 5% Amosite
218B-20-B *160400495-0071*						Not Analyzed
218B-20-C *160400495-0072*						Not Analyzed

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
218B-21-A *160400495-0073*		Black/Brown Fibrous Heterogeneous	Teased	60%	Cellulose	40%	Non-fibrous (other)	None Detected
218B-21-B *160400495-0074*		Black/Brown Fibrous Heterogeneous	Teased	60%	Cellulose	40%	Non-fibrous (other)	None Detected
218B-21-C *160400495-0075*		Black/Brown Fibrous Heterogeneous	Teased	60%	Cellulose	40%	Non-fibrous (other)	None Detected
218B-22-A *160400495-0076*		Brown/Black Fibrous Heterogeneous	Teased Crushed	20% 35%	Fibrous (other) Cellulose	45%	Non-fibrous (other)	None Detected
218B-22-B *160400495-0077*		Brown/Black Fibrous Heterogeneous	Teased Crushed	20% 30%	Fibrous (other) Cellulose	50%	Non-fibrous (other)	None Detected
218B-22-C *160400495-0078*		Brown/Black Fibrous Heterogeneous	Teased Crushed	20% 30%	Fibrous (other) Cellulose	50%	Non-fibrous (other)	None Detected
218B-23-A *160400495-0079*		Gray/Brown Fibrous Heterogeneous	Teased Crushed	10%	Hair	50%	Non-fibrous (other)	40% Chrysotile
218B-23-B *160400495-0080*								Not Analyzed
218B-23-C *160400495-0081*								Not Analyzed

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Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
218B-24-A *160400495-0082*		Gray Fibrous Homogeneous	Teased	25%	Cellulose	35%	Non-fibrous (other)	**40% Chrysotile**
218B-24-B *160400495-0083*								**Not Analyzed**
218B-24-C *160400495-0084*								**Not Analyzed**
[illegible]25-A *160400495-0085*		Brown Fibrous Homogeneous	Teased	90%	Cellulose	10%	Non-fibrous (other)	**None Detected**
218B-25-B *160400495-0086*		Brown Fibrous Homogeneous	Teased	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**
218B-25-C *160400495-0087*		Brown Fibrous Homogeneous	Teased	95%	Cellulose	5%	Non-fibrous (other)	**None Detected**
218B-26-A *160400495-0088*		Black/Green Fibrous Heterogeneous	Teased Crushed	20%	Cellulose	80%	Non-fibrous (other)	**None Detected**
218B-26-B *160400495-0089*		Black/Green Fibrous Heterogeneous	Teased Crushed	15%	Cellulose	85%	Non-fibrous (other)	**None Detected**
218B-26-C *160400495-0090*		Black/Green Fibrous Heterogeneous	Teased Crushed	20%	Cellulose	80%	Non-fibrous (other)	**None Detected**

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Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218B-27-A *160400495-0091*		Red Non-Fibrous Homogeneous	Crushed		98% Non-fibrous (other)	**2% Chrysotile**
218B-27-B *160400495-0092*						**Not Analyzed**
218B-27-C *160400495-0093*						**Not Analyzed**
[illegible]27-D [illegible]0495-0094						**Not Analyzed**
218B-27-E *160400495-0095*						**Not Analyzed**
218B-27-F *160400495-0096*						**Not Analyzed**
218B-27-G *160400495-0097*						**Not Analyzed**
218B-27-H *160400495-0098*						**Not Analyzed**
218B-27-I *160400495-0099*						**Not Analyzed**

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Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
218B-28-A *160400495-0100*		Black Fibrous Homogeneous	Teased	90%	Synthetic	10%	Non-fibrous (other)	**None Detected**
218B-28-B *160400495-0101*		Black Fibrous Homogeneous	Teased	95%	Synthetic	5%	Non-fibrous (other)	**None Detected**
218B-28-C *160400495-0102*		Black Fibrous Homogeneous	Teased	95%	Synthetic	5%	Non-fibrous (other)	**None Detected**
[redacted]29-A *160400495-0103*		Gray Non-Fibrous Homogeneous	Crushed			100%	Non-fibrous (other)	**None Detected**
218B-29-B *160400495-0104*		Gray Non-Fibrous Homogeneous	Crushed Heated			100%	Non-fibrous (other)	**None Detected**
218B-29-C *160400495-0105*		Gray Non-Fibrous Homogeneous	Crushed Melted			100%	Non-fibrous (other)	**None Detected**
218B-30-A *160400495-0106*		Black/Red Fibrous Heterogeneous	Teased Crushed	15%	Cellulose	85%	Non-fibrous (other)	**None Detected**
218B-30-B *160400495-0107*		Black/Red Fibrous Heterogeneous	Teased Crushed	20%	Cellulose	80%	Non-fibrous (other)	**None Detected**
218B-30-C *160400495-0108*		Black/Red Fibrous Heterogeneous	Teased Crushed	20%	Cellulose	80%	Non-fibrous (other)	**None Detected**

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				Non-Asbestos				Asbestos
Sample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
218B-31-A *160400495-0109*		Gray/Red Fibrous Heterogeneous	Teased Crushed	15%	Cellulose	55%	Non-fibrous (other)	30% Chrysotile

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Richard Harding (34)

or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.
Analysis performed by EMSL Indianapolis (NVLAP #200188-0)

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Project: **C-03254-D - 218**

Customer ID: NPNE50
Customer PO:
Received: 01/23/04 8:40 AM

EMSL Order: 160400560
EMSL Proj:
Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218-B-32-A *160400560-0001*		White/Yellow Fibrous Heterogeneous	Teased	70% Min. Wool 20% Cellulose	10% Non-fibrous (other)	None Detected
218-B-32-B *160400560-0002*		White/Yellow/Red Fibrous Heterogeneous	Teased	65% Min. Wool 25% Cellulose	10% Non-fibrous (other)	None Detected
218-B-32-C *160400560-0003*		Tan/Orange Fibrous Heterogeneous	Teased	25% Min. Wool 50% Cellulose	25% Non-fibrous (other)	None Detected
[redacted]-33-A *160400560-0004*		White Fibrous Homogeneous	Teased	45% Cellulose	10% Non-fibrous (other)	45% Chrysotile
218-B-33-B *160400560-0005*						Not Analyzed
218-B-33-C *160400560-0006*						Not Analyzed
218-B-34-A *160400560-0007*		Black Non-Fibrous Homogeneous	Dissolved	10% Cellulose	90% Non-fibrous (other)	None Detected
218-B-34-B *160400560-0008*		Black Non-Fibrous Homogeneous	Dissolved	10% Cellulose	90% Non-fibrous (other)	None Detected
218-B-34-C *160400560-0009*		Black Non-Fibrous Homogeneous	Dissolved	5% Synthetic 10% Cellulose	85% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (12)

or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.
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Project: C-03254-D - 218

Customer ID: NPNE50
Customer PO:
Received: 01/23/04 8:40 AM

EMSL Order: 160400560
EMSL Proj:
Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218-B-35-A *160400560-0010*		Gray Fibrous Homogeneous	Crushed		80% Non-fibrous (other)	20% Chrysotile
218-B-35-B *160400560-0011*						Not Analyzed
218-B-35-C *160400560-0012*						Not Analyzed

Analyst(s)

Margaret Phillips (12)

or other approved signatory

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Customer ID: NPNE50
Customer PO: C-03254.D
Received: 02/03/04 9:00 AM

EMSL Order: 160400754
EMSL Proj:
Analysis Date: 2/4/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
218B-36-A *160400754-0001*		Black Fibrous Heterogeneous	Teased Crushed	25%	Cellulose	75%	Non-fibrous (other)	None Detected
218B-36-B *160400754-0002*		Black Fibrous Heterogeneous	Teased Crushed	30%	Cellulose	70%	Non-fibrous (other)	None Detected
218B-36-C *160400754-0003*		Black Fibrous Heterogeneous	Teased Crushed	30%	Cellulose	70%	Non-fibrous (other)	None Detected

Analyst(s)
Richard Harding (3)

or other approved signatory

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PLM 1

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Customer ID: NPNE50
Customer PO:
Received: 01/22/04 8:35 AM

EMSL Order: 160400544
EMSL Proj:
Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
218B-08-C *160400544-0001*		White Fibrous Homogeneous	Teased		35% Non-fibrous (other)	65% Chrysotile
218B-31-B *160400544-0002*		Gray Fibrous Homogeneous	Teased	35% Cellulose	45% Non-fibrous (other)	20% Chrysotile
218B-31-C *160400544-0003*						Not Analyzed

Analyst(s)
Richard Harding (3)

or other approved signatory

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Customer ID: NPNE50
Customer PO:
Received: 01/21/04 8:43 AM

EMSL Order: 160400496
EMSL Proj:
Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
219B-01-A *160400496-0001*		Brown Fibrous Homogeneous	Teased	90%	Cellulose	10%	Non-fibrous (other)	None Detected
219B-01-B *160400496-0002*		Brown Fibrous Homogeneous	Teased	90%	Cellulose	10%	Non-fibrous (other)	None Detected
219B-01-C *160400496-0003*		Brown Fibrous Homogeneous	Teased	90%	Cellulose	10%	Non-fibrous (other)	None Detected
[redacted]-02-A *160400496-0004*		Tan Non-Fibrous Homogeneous	Crushed			20%	Quartz 80% Non-fibrous (other)	None Detected
219B-02-B *160400496-0005*		Tan Non-Fibrous Homogeneous	Crushed			20%	Quartz 80% Non-fibrous (other)	None Detected
219B-02-C *160400496-0006*		Tan Non-Fibrous Homogeneous	Crushed			20%	Quartz 80% Non-fibrous (other)	None Detected
219B-03-A *160400496-0007*		Tan Non-Fibrous Homogeneous	Crushed			30%	Quartz 70% Non-fibrous (other)	None Detected
219B-03-B *160400496-0008*		Tan Non-Fibrous Homogeneous	Crushed			30%	Quartz 70% Non-fibrous (other)	None Detected
219B-03-C *160400496-0009*		Tan Non-Fibrous Homogeneous	Crushed			30%	Quartz 70% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (54)

or other approved signatory

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Project:	C-03254C	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
219B-04-A *160400496-0010*		Red Non-Fibrous Homogeneous	Crushed		98% Non-fibrous (other)	2% Chrysotile
219B-04-B *160400496-0011*						Not Analyzed
219B-04-C *160400496-0012*						Not Analyzed
[illegible]-05-A *[illegible]00496-0013*		White/Red Fibrous Heterogeneous	Crushed Teased		95% Non-fibrous (other)	5% Chrysotile
219B-05-B *160400496-0014*						Not Analyzed
219B-05-C *160400496-0015*						Not Analyzed
219B-06-A *160400496-0016*		Red Non-Fibrous Homogeneous	Crushed		98% Non-fibrous (other)	2% Chrysotile
219B-06-B *160400496-0017*						Not Analyzed
219B-06-C *160400496-0018*						Not Analyzed

Analyst(s)

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Project:	C-03254C	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
219B-07-A *160400496-0019*		White/Tan Fibrous Heterogeneous	Teased	85% Cellulose	10% Non-fibrous (other)	**5% Chrysotile**
219B-07-B *160400496-0020*						**Not Analyzed**
219B-07-C *160400496-0021*						**Not Analyzed**
[redacted]-08-A [redacted]*00496-0022*		White/Gray Fibrous Heterogeneous	Teased	25% Min. Wool 10% Cellulose	60% Non-fibrous (other)	2% Chrysotile 3% Amosite
219B-08-B *160400496-0023*						**Not Analyzed**
219B-08-C *160400496-0024*						**Not Analyzed**
219B-09-A *160400496-0025*		White Fibrous Homogeneous	Teased	10% Cellulose	72% Non-fibrous (other)	**8% Chrysotile** **10% Amosite**
219B-09-B *160400496-0026*						**Not Analyzed**
219B-09-C *160400496-0027*						**Not Analyzed**

Analyst(s)

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or other approved signatory

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Customer ID: NPNE50
Customer PO:
Received: 01/21/04 8:43 AM

EMSL Order: 160400496
EMSL Proj:
Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
219B-10-A *160400496-0028*		Gray/Tan Fibrous Heterogeneous	Teased		65% Non-fibrous (other)	25% Chrysotile 10% Amosite
219B-10-B *160400496-0029*						Not Analyzed
219B-10-C *160400496-0030*						Not Analyzed
[redacted]11-A *[redacted]496-0031*		Tan Non-Fibrous Homogeneous	Dissolved		97% Non-fibrous (other)	3% Chrysotile
219B-11-B *160400496-0032*						Not Analyzed
219B-11-C *160400496-0033*						Not Analyzed
219B-12-A *160400496-0034*		Gray Non-Fibrous Homogeneous	Crushed		25% Quartz 75% Non-fibrous (other)	None Detected
219B-12-B *160400496-0035*		Gray Non-Fibrous Homogeneous	Crushed		25% Quartz 75% Non-fibrous (other)	None Detected
219B-12-C *160400496-0036*		Gray Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	None Detected

Analyst(s)

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Fax:	(636) 343-8192 Phone: (636) 343-1300	EMSL Order:	160400496
Project:	C-03254C	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
219B-13-A *160400496-0037*		White Fibrous Homogeneous	Dissolved		97% Non-fibrous (other)	3% Chrysotile
219B-13-B *160400496-0038*						Not Analyzed
219B-13-C *160400496-0039*						Not Analyzed
[redacted]14-A *[redacted]0496-0040*		Green/Black Fibrous Heterogeneous	Teased Dissolved	35% Cellulose	65% Non-fibrous (other)	None Detected
219B-14-B *160400496-0041*		Green/Black Fibrous Heterogeneous	Teased Dissolved	35% Cellulose	65% Non-fibrous (other)	None Detected
219B-14-C *160400496-0042*		Green/Black Fibrous Heterogeneous	Teased Dissolved	35% Cellulose	65% Non-fibrous (other)	None Detected
219B-15-A *160400496-0043*		Red Non-Fibrous Homogeneous	Crushed		2% Quartz 98% Non-fibrous (other)	None Detected
219B-15-B *160400496-0044*		Red Non-Fibrous Homogeneous	Crushed		2% Quartz 98% Non-fibrous (other)	None Detected
219B-15-C *160400496-0045*		Red Non-Fibrous Homogeneous	Crushed		2% Quartz 98% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (54)

or other approved signatory

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Fax:	(636) 343-8192 Phone: (636) 343-1300	EMSL Order:	160400496
Project:	C-03254C	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos			Asbestos
Sample	Location	Appearance	Treatment	% Fibrous		% Non-Fibrous	% Type
219B-16-A *160400496-0046*		Black Fibrous Homogeneous	Teased Dissolved	3% Synthetic 40% Cellulose		57% Non-fibrous (other)	None Detected
219B-16-B *160400496-0047*		Black Fibrous Homogeneous	Teased Dissolved	3% Synthetic 40% Cellulose		57% Non-fibrous (other)	None Detected
219B-16-C *160400496-0048*		Black Fibrous Homogeneous	Teased Dissolved	3% Synthetic 40% Cellulose		57% Non-fibrous (other)	None Detected
-17-A *160400496-0049*		Tan Non-Fibrous Homogeneous	Crushed			40% Quartz 60% Non-fibrous (other)	None Detected
219B-17-B *160400496-0050*		Tan Non-Fibrous Homogeneous	Crushed			40% Quartz 60% Non-fibrous (other)	None Detected
219B-17-C *160400496-0051*		White Non-Fibrous Homogeneous	Crushed			40% Quartz 60% Non-fibrous (other)	None Detected
219B-18-A *160400496-0052*		Tan Non-Fibrous Homogeneous	Dissolved			98% Non-fibrous (other)	2% Chrysotile
219B-18-B *160400496-0053*							Not Analyzed
219B-18-C *160400496-0054*							Not Analyzed

Analyst(s)

Margaret Phillips (54)

or other approved signatory

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Project:	C-03254.D	EMSL Order:	160400468
		EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
220B-01-A *160400468-0001*		Tan Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-01-B *160400468-0002*		Tan Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-01-C *160400468-0003*		Tan Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
02-A *160400468-0004*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-02-B *160400468-0005*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-02-C *160400468-0006*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-03A *160400468-0007*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-03B *160400468-0008*		Gray Non-Fibrous Homogeneous	Crushed Heated		98% Non-fibrous (other)	2% Chrysotile
220B-03C *160400468-0009*						Not Analyzed

Analyst(s)

Richard Harding (69)

or other approved signatory

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		Received:	01/21/04 8:47 AM
Fax:	(636) 343-8192 Phone: (636) 343-1300	EMSL Order:	160400468
Project:	C-03254.D	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
220B-04A *160400468-0010*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-04B *160400468-0011*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-04C *160400468-0012*		Gray Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
[illegible]05-A *160400468-0013*		Gray Non-Fibrous Homogeneous	Crushed		75% Non-fibrous (other)	25% Chrysotile
220B-05-B *160400468-0014*						Not Analyzed
220B-05-C *160400468-0015*						Not Analyzed
220B-06-A *160400468-0016*		Rust Non-Fibrous Homogeneous	Crushed		95% Non-fibrous (other)	5% Chrysotile
220B-06-B *160400468-0017*						Not Analyzed
220B-06-C *160400468-0018*						Not Analyzed

Analyst(s)

Richard Harding (69)

or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.

Analysis performed by EMSL Indianapolis (NVLAP #200188-0)

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Project: C-03254.D

Customer ID: NPNE50
Customer PO:
Received: 01/21/04 8:47 AM

EMSL Order: 160400468
EMSL Proj:
Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
220B-07-A *160400468-0019*		Rust/White Non-Fibrous Homogeneous	Crushed			94%	Non-fibrous (other)	6% Chrysotile
220B-07-B *160400468-0020*								Not Analyzed
220B-07-C *160400468-0021*								Not Analyzed
[illegible]08-A *160400468-0022*		Gray Non-Fibrous Homogeneous	Crushed			98%	Non-fibrous (other)	2% Chrysotile
220B-08-B *160400468-0023*								Not Analyzed
220B-08-C *160400468-0024*								Not Analyzed
220B-09-A *160400468-0025*		Black Non-Fibrous Homogeneous	Crushed	10%	Cellulose	90%	Non-fibrous (other)	None Detected
220B-09-B *160400468-0026*		Black Non-Fibrous Homogeneous	Crushed	15%	Cellulose	85%	Non-fibrous (other)	None Detected
220B-09-C *160400468-0027*		Black Non-Fibrous Homogeneous	Crushed	15%	Cellulose	85%	Non-fibrous (other)	None Detected

Analyst(s)
Richard Harding (69)

or other approved signatory

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Analysis performed by EMSL Indianapolis (NVLAP #200188-0)

PLM-1

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Customer ID: NPNE50
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EMSL Order: 160400468
EMSL Proj:
Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos				Asbestos
Sample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
220B-10-A *160400468-0028*		Gray/Black Non-Fibrous Heterogeneous	Crushed	15%	Cellulose	85%	Non-fibrous (other)	None Detected
220B-10-B *160400468-0029*		Gray/Black Non-Fibrous Heterogeneous	Crushed	20%	Cellulose	80%	Non-fibrous (other)	None Detected
220B-10-C *160400468-0030*		Gray/Black Non-Fibrous Heterogeneous	Crushed	15%	Cellulose	85%	Non-fibrous (other)	None Detected
[redacted]11-A *160400468-0031*		Brown Non-Fibrous Homogeneous	Crushed			100%	Non-fibrous (other)	None Detected
220B-11-B *160400468-0032*		Brown Non-Fibrous Homogeneous	Crushed			100%	Non-fibrous (other)	None Detected
220B-11-C *160400468-0033*		Brown Non-Fibrous Homogeneous	Crushed			100%	Non-fibrous (other)	None Detected
220B-12-A *160400468-0034*		Black Non-Fibrous Homogeneous	Crushed	15%	Cellulose	85%	Non-fibrous (other)	None Detected
220B-12-B *160400468-0035*		Black Non-Fibrous Homogeneous	Crushed	15%	Cellulose	85%	Non-fibrous (other)	None Detected
220B-12-C *160400468-0036*		Black Non-Fibrous Homogeneous	Crushed	20%	Cellulose	80%	Non-fibrous (other)	None Detected

Analyst(s)
Richard Harding (69)

or other approved signatory

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Analysis performed by EMSL Indianapolis (NVLAP #200168-0)

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Project:	C-03254.D	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
220B-13-A *160400468-0037*		Brown/Tan Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-13-B *160400468-0038*		Brown/Tan Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
220B-13-C *160400468-0039*		Brown/Tan Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
[redacted]14-A *160400468-0040*		Rust Non-Fibrous Homogeneous	Crushed		98% Non-fibrous (other)	2% Chrysotile
220B-14-B *160400468-0041*						Not Analyzed
220B-14-C *160400468-0042*						Not Analyzed
220B-15-A *160400468-0043*		Rust Non-Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected
220B-15-B *160400468-0044*		Rust Non-Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected
220B-15-C *160400468-0045*		Rust Non-Fibrous Homogeneous	Crushed	5% Cellulose	95% Non-fibrous (other)	None Detected

Analyst(s)

Richard Harding (69)

or other approved signatory

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EMSL Order: 160400468
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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
220B-16-A *160400468-0046*		White Fibrous Homogeneous	Teased		75% Non-fibrous (other)	12% Chrysotile 13% Amosite
220B-16-B *160400468-0047*						Not Analyzed
220B-16-C *160400468-0048*						Not Analyzed
[illegible]17-A [illegible]*0468-0049*		White Fibrous Homogeneous	Teased		75% Non-fibrous (other)	11% Chrysotile 14% Amosite
220B-17-B *160400468-0050*						Not Analyzed
220B-17-C *160400468-0051*						Not Analyzed
220B-18-A *160400468-0052*		Gray Fibrous Homogeneous	Teased		45% Non-fibrous (other)	55% Chrysotile
220B-18-B *160400468-0053*						Not Analyzed
220B-18-C *160400468-0054*						Not Analyzed

Analyst(s)
Richard Harding (69)

or other approved signatory

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Customer ID: NPNE50
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Received: 01/21/04 8:47 AM

EMSL Order: 160400468
EMSL Proj:
Analysis Date: 1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
220B-19-A *160400468-0055*		White Fibrous Homogeneous	Teased		75% Non-fibrous (other)	18% Chrysotile 7% Amosite
220B-19-B *160400468-0056*						Not Analyzed
220B-19-C *160400468-0057*						Not Analyzed
[illegible]20-A *[illegible]0468-0058*		Gray/Black/Tan Fibrous Heterogeneous	Teased	85% Cellulose	10% Non-fibrous (other)	5% Chrysotile
220B-20-B *160400468-0059*						Not Analyzed
220B-20-C *160400468-0060*						Not Analyzed
220B-21-A *160400468-0061*		Gray Fibrous Homogeneous	Teased		80% Non-fibrous (other)	14% Chrysotile 6% Amosite
220B-21-B *160400468-0062*						Not Analyzed
220B-21-C *160400468-0063*						Not Analyzed

Analyst(s)
Richard Harding (69)

or other approved signatory

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Project:	C-03254.D	EMSL Proj:	
		Analysis Date:	1/26/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos			Asbestos
Sample	Location	Appearance	Treatment	% Fibrous		% Non-Fibrous	% Type
220B-22-A *160400468-0064*		White Fibrous Homogeneous	Teased	10%	Cellulose	70% Non-fibrous (other)	12% Chrysotile 8% Amosite
220B-22-B *160400468-0065*							Not Analyzed
220B-22-C *160400468-0066*							Not Analyzed
[illegible]23-A *160400468-0067*		Gray Non-Fibrous Homogeneous	Crushed			20% Quartz 80% Non-fibrous (other)	None Detected
220B-23-B *160400468-0068*		Gray Non-Fibrous Homogeneous	Crushed			20% Quartz 80% Non-fibrous (other)	None Detected
220B-23-C *160400468-0069*		Gray Non-Fibrous Homogeneous	Crushed			20% Quartz 80% Non-fibrous (other)	None Detected

Analyst(s)

Richard Harding (69)

or other approved signatory

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Customer ID: NPNE50
Customer PO:
Received: 01/22/04 8:35 AM

EMSL Order: 160400542
EMSL Proj:
Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
220B-24-A *160400542-0001*		Beige Non-Fibrous Homogeneous	Crushed		98% Non-fibrous (other)	2% Chrysotile
220B-24-B *160400542-0002*						Not Analyzed
220B-24-C *160400542-0003*						Not Analyzed
[illegible]25-A *160400542-0004*		Black/Brown Fibrous Heterogeneous	Teased Crushed	15% Fibrous (other) 30% Cellulose	55% Non-fibrous (other)	None Detected
220B-25-B *160400542-0005*		Black/Brown Fibrous Heterogeneous	Teased Crushed	15% Fibrous (other) 25% Cellulose	60% Non-fibrous (other)	None Detected
220B-25-C *160400542-0006*		Black/Brown Fibrous Heterogeneous	Teased Crushed	15% Fibrous (other) 25% Cellulose	60% Non-fibrous (other)	None Detected

Analyst(s)

Richard Harding (6)

or other approved signatory

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Customer ID: NPNE50
Customer PO:
Received: 01/23/04 8:40 AM

EMSL Order: 160400561
EMSL Proj:
Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
220-B-26-A 160400561-0001		White Fibrous Homogeneous	Teased	45%	Cellulose	30%	Non-fibrous (other)	25% Chrysotile
220-B-26-B 160400561-0002								Not Analyzed
220-B-26-C 160400561-0003								Not Analyzed
[illegible]-27-A [illegible]0561-0004		Brown Fibrous Homogeneous	Teased	95%	Synthetic	5%	Non-fibrous (other)	None Detected
220-B-27-B 160400561-0005		Brown Fibrous Homogeneous	Teased	95%	Synthetic	5%	Non-fibrous (other)	None Detected
220-B-27-C 160400561-0006		Brown Fibrous Homogeneous	Teased	95%	Synthetic	5%	Non-fibrous (other)	None Detected

Analyst(s)

Richard Harding (6)

or other approved signatory

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Customer ID: NPNE50
Customer PO:
Received: 01/22/04 8:35 AM
EMSL Order: 160400534
EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
227-B-01-A *160400534-0001*		Gray Non-Fibrous Homogeneous	Dissolved		65% Non-fibrous (other)	**35% Chrysotile**
227-B-01-B *160400534-0002*						**Not Analyzed**
227-B-01-C *160400534-0003*						**Not Analyzed**
[redacted]02-A *[redacted]0534-0004*		Gray/Black Fibrous Heterogeneous	Teased Dissolved	25% Cellulose	10% Non-fibrous (other)	**65% Chrysotile**
227-B-02-B *160400534-0005*						**Not Analyzed**
227-B-02-C *160400534-0006*						**Not Analyzed**
227-B-03-A *160400534-0007*		Cream Non-Fibrous Homogeneous	Dissolved		98% Non-fibrous (other)	**2% Chrysotile**
227-B-03-B *160400534-0008*						**Not Analyzed**
227-B-03-C *160400534-0009*						**Not Analyzed**

Analyst(s)

Margaret Phillips (18)
Susan Harding (24)

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PLM-1

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Project:	C-03254-D - 227 Series	EMSL Proj:	
		Analysis Date:	1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos			Asbestos
Sample	Location	Appearance	Treatment	% Fibrous		% Non-Fibrous	% Type
227-B-04-A *160400534-0010*		Rust Non-Fibrous Homogeneous	Dissolved			100% Non-fibrous (other)	**None Detected**
227-B-04-B *160400534-0011*		Rust Non-Fibrous Homogeneous	Dissolved			100% Non-fibrous (other)	**None Detected**
227-B-04-C *160400534-0012*		Rust Non-Fibrous Homogeneous	Dissolved			100% Non-fibrous (other)	**None Detected**
[illegible]-05-A *160400534-0013*		Brown/White Fibrous Heterogeneous	Teased Dissolved	40%	Cellulose	60% Gypsum	**None Detected**
227-B-05-B *160400534-0014*		Brown/White Fibrous Heterogeneous	Teased Dissolved	35%	Cellulose	65% Gypsum	**None Detected**
227-B-05-C *160400534-0015*		Brown/White Fibrous Heterogeneous	Teased Dissolved	40%	Cellulose	60% Gypsum	**None Detected**
227-B-06-A *160400534-0016*		White Non-Fibrous Homogeneous	Dissolved			100% Non-fibrous (other)	**None Detected**
227-B-06-B *160400534-0017*		White Non-Fibrous Homogeneous	Dissolved			100% Non-fibrous (other)	**None Detected**
227-B-06-C *160400534-0018*		White Non-Fibrous Homogeneous	Dissolved			100% Non-fibrous (other)	**None Detected**

Analyst(s)

Margaret Phillips (18)
Susan Harding (24)

[illegible] or other approved signatory

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Customer PO:
Received: 01/22/04 8:35 AM
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EMSL Proj:
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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
227-B-07-A *160400534-0019*		Gray Fibrous Homogeneous	Teased	60% Cellulose	10% Non-fibrous (other)	30% Chrysotile
227-B-07-B *160400534-0020*						Not Analyzed
227-B-07-C *160400534-0021*						Not Analyzed
-08-A *160400534-0022*		White Fibrous Homogeneous	Teased		35% Non-fibrous (other)	50% Chrysotile 15% Amosite
227-B-08-B *160400534-0023*						Not Analyzed
227-B-08-C *160400534-0024*						Not Analyzed
227-B-09-A *160400534-0025*		White/Tan Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
227-B-09-B *160400534-0026*		White/Tan Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
227-B-09-C *160400534-0027*		White Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (18)
Susan Harding (24)

or other approved signatory

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Analysis performed by EMSL Indianapolis (NVLAP #200188-0)

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Customer ID: NPNE50
Customer PO:
Received: 01/22/04 8:35 AM

EMSL Order: 160400534
EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos %	Type
227-B-10-A *160400534-0028*		Black Fibrous Heterogeneous	Teased Dissolved	50%	Cellulose	35%	Non-fibrous (other)	**15%**	**Chrysotile**
227-B-10-B *160400534-0029*									**Not Analyzed**
227-B-10-C *160400534-0030*									**Not Analyzed**
[illegible]-11-A *160400534-0031*		Black/Brown Fibrous Homogeneous	Teased	2% 85%	Synthetic Cellulose	13%	Non-fibrous (other)	**None Detected**	
227-B-11-B *160400534-0032*		Black Fibrous Homogeneous	Teased	2% 85%	Synthetic Cellulose	13%	Non-fibrous (other)	**None Detected**	
227-B-11-C *160400534-0033*		Black Fibrous Homogeneous	Teased	2% 85%	Synthetic Cellulose	13%	Non-fibrous (other)	**None Detected**	
227-B-12-A *160400534-0034*		Black Non-Fibrous Homogeneous	Dissolved	15%	Cellulose	77%	Non-fibrous (other)	**8%**	**Chrysotile**
227-B-12-B *160400534-0035*									**Not Analyzed**
227-B-12-C *160400534-0036*									**Not Analyzed**

Analyst(s)

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Susan Harding (24)

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
227-B-13-A *160400534-0037*		Red Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	**None Detected**
227-B-13-B *160400534-0038*		Red Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	**None Detected**
227-B-13-C *160400534-0039*		Red Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	**None Detected**
-14-A *160400534-0040*		Black/Tan Fibrous Homogeneous	Teased	75% Cellulose	25% Non-fibrous (other)	**None Detected**
227-B-14-B *160400534-0041*		Black/Tan Fibrous Homogeneous	Teased	75% Cellulose	25% Non-fibrous (other)	**None Detected**
227-B-14-C *160400534-0042*		Black/Tan Fibrous Homogeneous	Teased	75% Cellulose	25% Non-fibrous (other)	**None Detected**

Analyst(s)

Margaret Phillips (18)
Susan Harding (24)

or other approved signatory

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PLM-1

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Project: C-03254-D - 228

Customer ID: NPNE50
Customer PO:
Received: 01/22/04 8:35 AM

EMSL Order: 160400537
EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
228B-01-A 160400537-0001		White/Tan Fibrous Heterogeneous	Crushed	30% Cellulose	70% Gypsum	None Detected
228B-01-B 160400537-0002		White/Tan Fibrous Heterogeneous	Crushed	30% Cellulose	70% Gypsum	None Detected
228B-01-C 160400537-0003		White/Tan Fibrous Heterogeneous	Crushed	15% Min. Wool 30% Cellulose	55% Gypsum	None Detected
[illegible]2-A 160400537-0004		Tan Non-Fibrous Homogeneous	Crushed	5% Min. Wool	95% Non-fibrous (other)	None Detected
228B-02-B 160400537-0005		Tan Non-Fibrous Homogeneous	Crushed	5% Min. Wool	95% Non-fibrous (other)	None Detected
228B-02-C 160400537-0006		Tan Non-Fibrous Homogeneous	Crushed	5% Min. Wool	95% Non-fibrous (other)	None Detected
228B-03-A 160400537-0007		Gray Non-Fibrous Homogeneous	Crushed	<1% Cellulose	50% Quartz 50% Non-fibrous (other)	None Detected
228B-03-B 160400537-0008		Gray Non-Fibrous Homogeneous	Crushed	<1% Cellulose	50% Quartz 50% Non-fibrous (other)	None Detected
228B-03-C 160400537-0009		Gray Non-Fibrous Homogeneous	Crushed	<1% Cellulose	50% Quartz 50% Non-fibrous (other)	None Detected

Analyst(s)
Margaret Phillips (60)

or other approved signatory

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EMSL Order: 160400537
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Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
228B-04-A *160400537-0010*		Red Non-Fibrous Homogeneous	Crushed			97%	Non-fibrous (other)	3% Chrysotile
228B-04-B *160400537-0011*								Not Analyzed
228B-04-C *160400537-0012*								Not Analyzed
[redacted]05-A [redacted]537-0013		Red/White Non-Fibrous Heterogeneous	Crushed			95%	Non-fibrous (other)	5% Chrysotile
228B-05-B *160400537-0014*								Not Analyzed
228B-05-C *160400537-0015*								Not Analyzed
228B-06-A *160400537-0016*		Red Fibrous Homogeneous	Crushed	5%	Cellulose	25% 70%	Quartz Non-fibrous (other)	None Detected
228B-06-B *160400537-0017*		Red Fibrous Homogeneous	Crushed	5%	Cellulose	25% 70%	Quartz Non-fibrous (other)	None Detected
228B-06-C *160400537-0018*		Red Fibrous Homogeneous	Crushed	5%	Cellulose	25% 70%	Quartz Non-fibrous (other)	None Detected

Analyst(s)
Margaret Phillips (60)

or other approved signatory

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Project:	C-03254-D - 228	EMSL Order:	160400537
		EMSL Proj:	
		Analysis Date:	1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
228B-07-A *160400537-0019*		Tan Fibrous Homogeneous	Crushed	5% Cellulose	25% Quartz 70% Non-fibrous (other)	None Detected
228B-07-B *160400537-0020*		Tan Fibrous Homogeneous	Crushed	5% Cellulose	25% Quartz 70% Non-fibrous (other)	None Detected
228B-07-C *160400537-0021*		Tan Fibrous Homogeneous	Crushed	5% Cellulose	25% Quartz 70% Non-fibrous (other)	None Detected
[redacted]8-A *160400537-0022*		White Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
228B-08-B *160400537-0023*		Gray Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
228B-08-C *160400537-0024*		Gray Non-Fibrous Homogeneous	Dissolved		100% Non-fibrous (other)	None Detected
228B-09-A *160400537-0025*		Gray Non-Fibrous Homogeneous	Crushed	2% Cellulose	30% Quartz 68% Non-fibrous (other)	None Detected
228B-09-B *160400537-0026*		Gray Non-Fibrous Homogeneous	Crushed		25% Quartz 75% Non-fibrous (other)	None Detected
228B-09-C *160400537-0027*		Gray Non-Fibrous Homogeneous	Crushed		25% Quartz 75% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (60)

or other approved signatory

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EMSL Proj:
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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
228B-10-A *160400537-0028*		Brown Non-Fibrous Homogeneous	Dissolved			95%	Non-fibrous (other)	5% Chrysotile
228B-10-B *160400537-0029*								Not Analyzed
228B-10-C *160400537-0030*								Not Analyzed
228B-11-A *160400537-0031*		White Non-Fibrous Homogeneous	Dissolved	5%	Wollastonite	95%	Non-fibrous (other)	None Detected
228B-11-B *160400537-0032*		Tan Non-Fibrous Homogeneous	Dissolved	5%	Wollastonite	95%	Non-fibrous (other)	None Detected
228B-11-C *160400537-0033*		Tan Non-Fibrous Homogeneous	Dissolved	5%	Wollastonite	95%	Non-fibrous (other)	None Detected
228B-12-A *160400537-0034*		White Non-Fibrous Homogeneous	Dissolved	5%	Fibrous (other)	95%	Non-fibrous (other)	None Detected
228B-12-B *160400537-0035*		Tan Non-Fibrous Homogeneous	Dissolved	5%	Fibrous (other)	95%	Non-fibrous (other)	None Detected
228B-12-C *160400537-0036*		White/Tan Non-Fibrous Homogeneous	Dissolved	5%	Fibrous (other)	95%	Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (60)

or other approved signatory

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
228B-13-A *160400537-0037*		Gray Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	None Detected
228B-13-B *160400537-0038*		Gray Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	None Detected
228B-13-C *160400537-0039*		Gray Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	None Detected
[redacted]14-A *160400537-0040*		Red Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
228B-14-B *160400537-0041*		Red Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
228B-14-C *160400537-0042*		Red Non-Fibrous Homogeneous	Crushed		100% Non-fibrous (other)	None Detected
228B-15-A *160400537-0043*		Black Fibrous Homogeneous	Teased	3% Synthetic 70% Cellulose	27% Non-fibrous (other)	None Detected
228B-15-B *160400537-0044*		Black Fibrous Homogeneous	Teased	3% Synthetic 70% Cellulose	27% Non-fibrous (other)	None Detected
228B-15-C *160400537-0045*		Black Fibrous Homogeneous	Teased	3% Synthetic 70% Cellulose	27% Non-fibrous (other)	None Detected

Analyst(s)

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or other approved signatory

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Project:	C-03254-D - 228	EMSL Proj:	
		Analysis Date:	1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
228B-16-A *160400537-0046*		White/Brown Fibrous Heterogeneous	Teased	70% Cellulose	15% Non-fibrous (other)	15% Chrysotile
228B-16-B *160400537-0047*						Not Analyzed
228B-16-C *160400537-0048*						Not Analyzed
[redacted]17-A *160400537-0049*		White/Gray Fibrous Heterogeneous	Teased	30% Glass	60% Non-fibrous (other)	5% Chrysotile 5% Amosite
228B-17-B *160400537-0050*						Not Analyzed
228B-17-C *160400537-0051*						Not Analyzed
228B-18-A *160400537-0052*		White Fibrous Heterogeneous	Teased	20% Cellulose	60% Non-fibrous (other)	5% Chrysotile 15% Amosite
228B-18-B *160400537-0053*						Not Analyzed
228B-18-C *160400537-0054*						Not Analyzed

Analyst(s)

Margaret Phillips (60)

or other approved signatory

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Customer ID: NPNE50
Customer PO:
Received: 01/22/04 8:35 AM

EMSL Order: 160400537
EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
228B-19-A *160400537-0055*		White/Gray Fibrous Heterogeneous	Teased	20% Cellulose	30% Non-fibrous (other)	25% Chrysotile 25% Amosite
228B-19-B *160400537-0056*						Not Analyzed
228B-19-C *160400537-0057*						Not Analyzed
[redacted]20-A *160400537-0058*		Red Non-Fibrous Homogeneous	Crushed		20% Quartz 80% Non-fibrous (other)	None Detected
228B-20-B *160400537-0059*		Red Non-Fibrous Homogeneous	Crushed		25% Quartz 75% Non-fibrous (other)	None Detected
228B-20-C *160400537-0060*		Red Non-Fibrous Homogeneous	Crushed		30% Quartz 70% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (60)

or other approved signatory

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Project:	C-03254-D - 228	EMSL Proj:	
		Analysis Date:	1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos				Asbestos
Sample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
228-B-21-A *160400562-0001*		Gray/Brown Fibrous Heterogeneous	Crushed Teased	25%	Cellulose	75%	Non-fibrous (other)	None Detected
228-B-21-B *160400562-0002*		Gray/Brown Fibrous Heterogeneous	Teased Crushed	25%	Cellulose	75%	Non-fibrous (other)	None Detected
228-B-21-C *160400562-0003*		Gray/Brown Fibrous Heterogeneous	Teased Crushed	25%	Cellulose	75%	Non-fibrous (other)	None Detected

Analyst(s)

Richard Harding (3)

or other approved signatory

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Customer ID: NPNE50
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EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
228YB-01-A 160400532-0001		White/Gray Fibrous Homogeneous	Crushed		80% Non-fibrous (other)	20% Chrysotile
228YB-01-B 160400532-0002						Not Analyzed
228YB-01-C 160400532-0003						Not Analyzed
-02-A 160400532-0004		White Non-Fibrous Homogeneous	Dissolved	10% Fibrous (other)	90% Non-fibrous (other)	None Detected
228YB-02-B 160400532-0005		White/Tan Non-Fibrous Homogeneous	Dissolved	5% Fibrous (other)	95% Non-fibrous (other)	None Detected
228YB-02-C 160400532-0006		White/Tan Non-Fibrous Homogeneous	Dissolved	5% Fibrous (other)	95% Non-fibrous (other)	None Detected
228YB-03-A 160400532-0007		White Non-Fibrous Homogeneous	Dissolved	5% Fibrous (other)	95% Non-fibrous (other)	None Detected
228YB-03-B 160400532-0008		White/Tan Non-Fibrous Homogeneous	Dissolved	10% Fibrous (other)	90% Non-fibrous (other)	None Detected
228YB-03-C 160400532-0009		White/Tan Non-Fibrous Homogeneous	Dissolved	10% Fibrous (other)	90% Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (57)

or other approved signatory

Due to magnification limitations inherent in PLM, asbestos fibers in dimensions below the resolution capability of PLM may not be detected. Samples reported as <1% or none detected may require additional testing by TEM to confirm asbestos quantities. The above test report relates only to the items tested and may not be reproduced in any form without the express written approval of EMSL Analytical, Inc. EMSL's liability is limited to the cost of analysis. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client.
Analysis performed by EMSL Indianapolis (NVLAP #200188-0)

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Project:	C-03254-D - 228Y	EMSL Order:	160400532
		EMSL Proj:	
		Analysis Date:	1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	Location	Appearance	Treatment	% Fibrous	% Non-Fibrous	% Type
228YB-04-A *160400532-0010*		Red Non-Fibrous Homogeneous	Dissolved		97% Non-fibrous (other)	3% Chrysotile
228YB-04-B *160400532-0011*						Not Analyzed
228YB-04-C *160400532-0012*						Not Analyzed
[illegible]B-05-A [illegible]0532-0013		Black Fibrous Homogeneous	Teased	2% Synthetic 75% Cellulose	23% Non-fibrous (other)	None Detected
228YB-05-B *160400532-0014*		Black Fibrous Homogeneous	Teased	2% Synthetic 75% Cellulose	23% Non-fibrous (other)	None Detected
228YB-05-C *160400532-0015*		Black Fibrous Homogeneous	Teased	2% Synthetic 75% Cellulose	23% Non-fibrous (other)	None Detected
228YB-06-A *160400532-0016*		Tan Non-Fibrous Homogeneous	Dissolved		97% Non-fibrous (other)	3% Chrysotile
228YB-06-B *160400532-0017*						Not Analyzed
228YB-06-C *160400532-0018*						Not Analyzed

Analyst(s)

Margaret Phillips (57)

or other approved signatory

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EMSL Order: 160400532
EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
228YB-07-A 160400532-0019		White Fibrous Heterogeneous	Teased	15%	Cellulose	65%	Non-fibrous (other)	5% Chrysotile 15% Amosite
228YB-07-B 160400532-0020								Not Analyzed
228YB-07-C 160400532-0021								Not Analyzed
[illegible]-08-A [illegible]532-0022		White/Brown Fibrous Heterogeneous	Teased	15%	Cellulose	65%	Non-fibrous (other)	5% Chrysotile 15% Amosite
228YB-08-B 160400532-0023								Not Analyzed
228YB-08-C 160400532-0024								Not Analyzed
228YB-09-A 160400532-0025		Green/Tan Fibrous Homogeneous	Teased	85%	Cellulose	15%	Non-fibrous (other)	None Detected
228YB-09-B 160400532-0026		Green/Tan Fibrous Homogeneous	Teased	85%	Cellulose	15%	Non-fibrous (other)	None Detected
228YB-09-C 160400532-0027		Green/Tan Fibrous Homogeneous	Teased	85%	Cellulose	15%	Non-fibrous (other)	None Detected

Analyst(s)

Margaret Phillips (57)

or other approved signatory

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EMSL Order: 160400532
EMSL Proj:
Analysis Date: 1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
228YB-10-A *160400532-0028*		Black/Tan Fibrous Heterogeneous	Teased Dissolved	85% Cellulose	15% Non-fibrous (other)	None Detected
228YB-10-B *160400532-0029*		Black/Tan Fibrous Heterogeneous	Teased Dissolved	85% Cellulose	15% Non-fibrous (other)	None Detected
228YB-10-C *160400532-0030*		Black/Tan Fibrous Heterogeneous	Teased Dissolved	85% Cellulose	15% Non-fibrous (other)	None Detected
[redacted]-11-A *160400532-0031*		Green/Tan Non-Fibrous Homogeneous	Dissolved		97% Non-fibrous (other)	3% Chrysotile
228YB-11-B *160400532-0032*						Not Analyzed
228YB-11-C *160400532-0033*						Not Analyzed
228YB-12-A *160400532-0034*		Tan Non-Fibrous Homogeneous	Dissolved		95% Non-fibrous (other)	5% Chrysotile
228YB-12-B *160400532-0035*						Not Analyzed
228YB-12-C *160400532-0036*						Not Analyzed

Analyst(s)

Margaret Phillips (57)

or other approved signatory

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
228YB-13-A *160400532-0037*		White Non-Fibrous Homogeneous	Dissolved	5%	Fibrous (other)	95%	Non-fibrous (other)	**None Detected**
228YB-13-B *160400532-0038*		White Non-Fibrous Homogeneous	Dissolved	5%	Fibrous (other)	95%	Non-fibrous (other)	**None Detected**
228YB-13-C *160400532-0039*		White Non-Fibrous Homogeneous	Dissolved	5%	Fibrous (other)	95%	Non-fibrous (other)	**None Detected**
[redacted]-14-A *160400532-0040*		Tan/White Fibrous Heterogeneous	Teased	70%	Cellulose	15%	Non-fibrous (other)	**15% Chrysotile**
228YB-14-B *160400532-0041*								**Not Analyzed**
228YB-14-C *160400532-0042*								**Not Analyzed**
228YB-15-A *160400532-0043*		Tan/Black Fibrous Heterogeneous	Teased	70%	Cellulose	15%	Non-fibrous (other)	**15% Chrysotile**
228YB-15-B *160400532-0044*								**Not Analyzed**
228YB-15-C *160400532-0045*								**Not Analyzed**

Analyst(s)

Margaret Phillips (57)

or other approved signatory

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Project:	**C-03254-D - 228Y**	EMSL Proj:	
		Analysis Date:	1/28/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos		Asbestos
Sample	**Location**	**Appearance**	**Treatment**	**% Fibrous**	**% Non-Fibrous**	**% Type**
228YB-16-A *160400532-0046*		White Fibrous Heterogeneous	Teased	15% Cellulose	55% Non-fibrous (other)	**15% Chrysotile** **15% Amosite**
228YB-16-B *160400532-0047*						**Not Analyzed**
228YB-16-C *160400532-0048*						**Not Analyzed**
[redacted]B-17-A *160400532-0049*		White/Gray Fibrous Heterogeneous	Teased	15% Cellulose	50% Non-fibrous (other)	**20% Chrysotile** **15% Amosite**
228YB-17-B *160400532-0050*						**Not Analyzed**
228YB-17-C *160400532-0051*						**Not Analyzed**
228YB-18-A *160400532-0052*		Tan Fibrous Homogeneous	Teased	40% Min. Wool	35% Non-fibrous (other)	**10% Chrysotile** **15% Amosite**
228YB-18-B *160400532-0053*						**Not Analyzed**
228YB-18-C *160400532-0054*						**Not Analyzed**

Analyst(s)

Margaret Phillips (57)

or other approved signatory

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Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos				Asbestos
Sample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
228YB-19-A *160400532-0055*		Tan/Black Fibrous Heterogeneous	Teased	25% 25%	Hair Cellulose	40%	Non-fibrous (other)	5% Chrysotile 5% Amosite
228YB-19-B *160400532-0056*								Not Analyzed
228YB-19-C *160400532-0057*								Not Analyzed

Analyst(s)

Margaret Phillips (57)

or other approved signatory

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Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos % Fibrous	Non-Asbestos % Non-Fibrous	Asbestos % Type
TB-01-A *160400540-0001*		Gray Fibrous Homogeneous	Teased		35% Non-fibrous (other)	65% Chrysotile
TB-01-B *160400540-0002*						Not Analyzed
TB-01-C *160400540-0003*						Not Analyzed
[illegible]-A *160400540-0004*		Gray Fibrous Homogeneous	Teased		50% Non-fibrous (other)	50% Chrysotile
TB-02-B *160400540-0005*						Not Analyzed
TB-02-C *160400540-0006*						Not Analyzed
TB-03-A *160400540-0007*		White Fibrous Homogeneous	Teased		75% Non-fibrous (other)	15% Chrysotile 10% Amosite
TB-03-B *160400540-0008*						Not Analyzed
TB-03-C *160400540-0009*						Not Analyzed

Analyst(s)
Richard Harding (18)

or other approved signatory

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Analysis Date: 1/27/2004

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

Sample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	Non-Asbestos %	Non-Fibrous	Asbestos % Type
TB-04-A *160400540-0010*		Tan/Gray Fibrous Homogeneous	Teased	30%	Cellulose	55%	Non-fibrous (other)	15% Chrysotile
TB-04-B *160400540-0011*								Not Analyzed
TB-04-C *160400540-0012*								Not Analyzed
[redacted]A *[redacted]0540-0013*		White Fibrous Homogeneous	Teased			70%	Non-fibrous (other)	20% Chrysotile 10% Amosite
TB-05-B *160400540-0014*								Not Analyzed
TB-05-C *160400540-0015*								Not Analyzed
TB-06-A *160400540-0016*		White Fibrous Homogeneous	Teased			70%	Non-fibrous (other)	27% Chrysotile 3% Amosite
TB-06-B *160400540-0017*								Not Analyzed
TB-06-C *160400540-0018*								Not Analyzed

Analyst(s)
Richard Harding (18)

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Global (QA/QC Samples)

GLOBAL ENVIRONMENTAL LABORATORIES, INC.

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

AIHA Laboratory # 102636

Indoor Air Quality (IAQ), Mold
Bioaerosols, Asbestos, Lead
Environmental & Food Microbiology
Consulting

11040 Lin-Valle Dr. St. Louis, MO 63123 (314) 845-8910 FAX (314) 845-6459

Report No. 04-01-00160B

January 26, 2004

NPN Environmental Engineers, Inc.
927 Horan Drive
Fenton, MO 63026

P.O. # 03254.D
Attn: Mr. Greg DeGrande

Determination of asbestos content on nine (9) bulk samples submitted on January 21, 2004.

TEST REPORT

Project Name: 218

Sample Identification / Description: 218B-10-A GEL LN: 091174

Layer #	%	Layer Description	Asbestos		Other Fibrous		Non-Fibrous
1	2	black/off-white paint	No asbestos detected				> 95 %
2	98	off-whit/white caulking	Chrysotile	5 - 10 %			90 - 95 %

Two additional samples submitted as a set with this sample, identified as 218B-10-B and 218B-10-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 218B-16-A GEL LN: 091177

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	off-white mortar	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 218B-16-B GEL LN: 091178

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	off-white mortar	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 218B-16-C GEL LN: 091179

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	off-white mortar	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 218B-30-A GEL LN: 091180

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	29	brown rocks	No asbestos detected			> 95 %
2	28	black tar	No asbestos detected			> 95 %
3	39	brown felt	No asbestos detected	Cellulose	20 - 30 %	
				Synthetic	5 - 10 %	
				Hair	1 - 3 %	60 - 70 %
4	4	black tar	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 218B-30-B GEL LN: 091181

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	29	brown rocks	No asbestos detected			> 95 %
2	28	black tar	No asbestos detected			> 95 %
3	39	brown felt	No asbestos detected	Cellulose	20 - 30 %	
				Synthetic	5 - 10 %	
				Hair	1 - 3 %	60 - 70 %
4	4	black tar	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 218B-30-C GEL LN: 091182

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	29	brown rocks	No asbestos detected			> 95 %
2	28	black tar	No asbestos detected			> 95 %
3	39	brown felt	No asbestos detected	Cellulose	20 - 30 %	
				Synthetic	5 - 10 %	
				Hair	1 - 3 %	60 - 70 %
4	4	black tar	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

Samples analyzed by this method, especially floor tile and other resin bound materials, may yield false negative results due to method limitations. Owing to the subjective nature of the method which provides visual estimates for percentages of constituents present, alternative methods (e.g., TEM) may be utilized at the discretion of the client.

The analysis was conducted under the supervision of a graduate of a McCrone Research Institute's bulk asbestos course. Global Environmental Laboratories, Inc. is a participant in the Bulk Asbestos Proficiency Analytical Testing (BAPAT) program administered by the American Industrial Hygiene Association (Lab # 102636).

Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/23/04.

Respectfully submitted,

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

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Report No. 04-01-00160A

January 26, 2004

NPN Environmental Engineers, Inc.
927 Horan Drive
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P.O. # 03254.D
Attn: Mr. Greg DeGrande

Determination of asbestos content on six (6) bulk samples submitted on January 21, 2004.

TEST REPORT

Project Name: 219

Sample Identification / Description: 219B-04-A — GEL LN: 091168

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	brick & tan floor tile	Chrysotile 1 - 3 %		> 95 %

Two additional samples submitted as a set with this sample, identified as 219B-04-B and 219B-04-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 219B-12-A — GEL LN: 091171

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	tan cement	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 219B-12-B — GEL LN: 091172

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	tan cement	No asbestos detected		> 95 %
2	< 1	green paint	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 219B-12-C — GEL LN: 091173

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	tan cement	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

Samples analyzed by this method, especially floor tile and other resin bound materials, may yield false negative results due to method limitations. Owing to the subjective nature of the method which provides visual estimates for percentages of constituents present, alternative methods (e.g., TEM) may be utilized at the discretion of the client.

The analysis was conducted under the supervision of a graduate of a McCrone Research Institute's bulk asbestos course. Global Environmental Laboratories, Inc. is a participant in the Bulk Asbestos Proficiency Analytical Testing (BAPAT) program administered by the American Industrial Hygiene Association (Lab # 102636).

Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/23/04.

Respectfully submitted,

Roman J. Narconis Jr.

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

GLOBAL ENVIRONMENTAL LABORATORIES, INC.

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

AIHA Laboratory # 102636

Indoor Air Quality (IAQ), Mold
Bioaerosols, Asbestos, Lead
Environmental & Food Microbiology
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Report No. 04-01-00160

January 26, 2004

NPN Environmental Engineers, Inc.
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P.O. # 03254.D
Attn: Mr. Greg DeGrande

Determination of asbestos content on nine (9) bulk samples submitted on January 21, 2004.

TEST REPORT

Project Name: 220

Sample Identification / Description: 220B-07-A — GEL LN: 091159

Layer #	%	Layer Description	Asbestos		Other Fibrous		Non-Fibrous
1	100	tan/brown/pink floor tile	Chrysotile	1 - 3 %			> 95 %

Two additional samples submitted as a set with this sample, identified as 220B-07-B and 220B-07-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 220B-14-A — GEL LN: 091162

Layer #	%	Layer Description	Asbestos		Other Fibrous		Non-Fibrous
1	100	pink & tan floor tile	Chrysotile	1 - 3 %			> 95 %

Two additional samples submitted as a set with this sample, identified as 220B-14-B and 220B-14-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 220B-23-A — GEL LN: 091165

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	gray mortar	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 220B-23-B — GEL LN: 091166

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	gray mortar	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 220B-23-C — GEL LN: 091167

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	gray mortar	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

Samples analyzed by this method, especially floor tile and other resin bound materials, may yield false negative results due to method limitations. Owing to the subjective nature of the method which provides visual estimates for percentages of constituents present, alternative methods (e.g., TEM) may be utilized at the discretion of the client.

The analysis was conducted under the supervision of a graduate of a McCrone Research Institute's bulk asbestos course. Global Environmental Laboratories, Inc. is a participant in the Bulk Asbestos Proficiency Analytical Testing (BAPAT) program administered by the American Industrial Hygiene Association (Lab # 102636).

Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/23/04.

Respectfully submitted,

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

GLOBAL ENVIRONMENTAL LABORATORIES, INC.

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AIHA Laboratory # 102636

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Report No. 04-01-00171

January 27, 2004

NPN Environmental Engineers, Inc.
927 Horan Drive
Fenton, MO 63026

P.O. # 03254.D
Attn: Ruth Mannebach

Determination of asbestos content on six (6) bulk samples submitted on January 22, 2004.

TEST REPORT

Project Name: 227

Sample Identification / Description: 227B-09-A GEL LN: 091221

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	1	gray debris	No asbestos detected			> 95 %
2	99	white caulking	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 227B-09-B GEL LN: 091222

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	2	off-white paint	No asbestos detected			> 95 %
2	98	white caulking	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 227B-09-C GEL LN: 091223

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	white caulking	No asbestos detected			> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 227B-11-A GEL LN: 091224

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	brown tar paper	No asbestos detected	Cellulose	50 - 60 %	
				Synthetic	1 - 3 %	30 - 40 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 227B-11-B GEL LN: 091225

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	brown tar paper	No asbestos detected	Cellulose	50 - 60 %	40 - 50 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 227B-11-C GEL LN: 091226

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	100	brown tar paper	No asbestos detected	Cellulose	50 - 60 %	
				Synthetic	1 - 3 %	30 - 40 %

No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

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Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/26/04.

Respectfully submitted,

Roman J. Narconis Jr.

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

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AIHA Laboratory # 102636

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Report No. 04-01-00168

January 27, 2004

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Fenton, MO 63026

P.O. # 03254
Attn: Lisa Hosey

Determination of asbestos content on six (6) bulk samples submitted on January 22, 2004.

TEST REPORT

Project Name: 228

Sample Identification / Description: 228B-10-A — GEL LN: 091206

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	2	white & gray flat	No asbestos detected		> 95 %
2	98	white/off-white caulking	Chrysotile 5 - 10 %		90 - 95 %

Two additional samples submitted as a set with this sample, identified as 228B-10-B and 228B-10-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228B-20-A — GEL LN: 091209

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	refractory brick	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228B-20-B — GEL LN: 091210

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	refractory brick	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228B-20-C — GEL LN: 091211

Layer #	%	Layer Description	Asbestos	Other Fibrous	Non-Fibrous
1	100	refractory brick	No asbestos detected		> 95 %

No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

Samples analyzed by this method, especially floor tile and other resin bound materials, may yield false negative results due to method limitations. Owing to the subjective nature of the method which provides visual estimates for percentages of constituents present, alternative methods (e.g., TEM) may be utilized at the discretion of the client.

The analysis was conducted under the supervision of a graduate of a McCrone Research Institute's bulk asbestos course. Global Environmental Laboratories, Inc. is a participant in the Bulk Asbestos Proficiency Analytical Testing (BAPAT) program administered by the American Industrial Hygiene Association (Lab # 102636).

Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/26/04.

Respectfully submitted,

Roman J. Narconis Jr.

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

GLOBAL ENVIRONMENTAL LABORATORIES, INC.

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

AIHA Laboratory # 102636

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Report No. 04-01-00186

January 28, 2004

NPN Environmental Engineers, Inc.
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Fenton, MO 63026

P.O. # 03254.D
Attn: Ruth Mannebach

Determination of asbestos content on three (3) bulk samples submitted on January 23, 2004.

TEST REPORT

Project Name: 228

Sample Identification / Description: 228-B-21-A GEL LN: 091286

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	19	off-white paint	No asbestos detected			> 95 %
2	81	brown insulation	No asbestos detected	Cotton	80 - 90 %	10 - 20 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228-B-21-B GEL LN: 091287

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	19	off-white paint	No asbestos detected			> 95 %
2	81	brown insulation	No asbestos detected	Cotton	80 - 90 %	10 - 20 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228-B-21-C GEL LN: 091288

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	19	off-white paint	No asbestos detected			> 95 %
2	81	brown insulation	No asbestos detected	Cotton	80 - 90 %	10 - 20 %

No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

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Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/26/04.

Respectfully submitted,

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

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Report No. 04-01-00170

January 27, 2004

NPN Environmental Engineers, Inc.
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Fenton, MO 63026

P.O. # 03254.D
Attn: Ruth Mannebach

Determination of asbestos content on six (6) bulk samples submitted on January 22, 2004.

TEST REPORT

Project Name: 228Y

Sample Identification / Description: 228YB-02-A — GEL LN: 091215

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	4	white paint	No asbestos detected			> 95 %
2	96	off-white caulking	No asbestos detected	Talc	5 - 10 %	90 - 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228YB-02-B — GEL LN: 091216

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	4	white paint	No asbestos detected			> 95 %
2	96	off-white caulking	No asbestos detected	Talc	5 - 10 %	90 - 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228YB-02-C — GEL LN: 091217

Layer #	%	Layer Description	Asbestos	Other Fibrous		Non-Fibrous
1	4	white paint	No asbestos detected			> 95 %
2	96	off-white caulking	No asbestos detected	Talc	5 - 10 %	90 - 95 %

No additional layers were identified during the course of the analysis for this sample.

Sample Identification / Description: 228YB-12-A — GEL LN: 091218

Layer #	%	Layer Description	Asbestos		Other Fibrous		Non-Fibrous
1	2	off-white paint	No asbestos detected				> 95 %
2	98	off-white caulking	Chrysotile	5 - 10 %			90 - 95 %

Two additional samples submitted as a set with this sample, identified as 228YB-12-B and 228YB-12-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

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Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/26/04.

Respectfully submitted,

Roman J. Narconis Jr.

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.

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Report No. 04-01-00169

January 27, 2004

NPN Environmental Engineers, Inc.
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Fenton, MO 63026

P.O. # 03254.D
Attn: Ruth Mannebach

Determination of asbestos content on three (3) bulk samples submitted on January 22, 2004.

TEST REPORT

Project Name: Tunnel

Sample Identification / Description: TB-01-A GEL LN: 091212

Layer #	%	Layer Description	Asbestos		Other Fibrous		Non-Fibrous
1	100	gray duct wrap	Chrysotile	50 - 60 %	Cellulose	5 - 10 %	30 - 40 %

Two additional samples submitted as a set with this sample, identified as TB-01-B and TB-01-C, were not analyzed based upon the presence of asbestos in the sample analyzed. No additional layers were identified during the course of the analysis for this sample.

The samples submitted were prepared and analyzed for asbestos content by polarized light microscopy (PLM) with dispersion staining. According to the United States Environmental Protection Agency (USEPA), any sample containing greater than one (1) percent asbestos is defined as an asbestos-containing material (ACM). All samples were collected by and all sampling data was provided by the client. The reported results apply only to the samples analyzed, and only for those samples collected in accordance with the appropriate methodology as determined by the client.

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Method Reference: EPA/600/R-93/116, July, 1993. Any asbestos fiber detected is reported; estimates less than (<) 1% are reported as "trace". The samples were submitted in acceptable condition and analyzed on 1/26/04.

Respectfully submitted,

Roman (Ray) Narconis, Jr.
Laboratory Director

Graduate, McCrone Research Institute's "Microscopical Identification of Asbestos", "TEM Asbestos Analysis", and NIOSH 582, "Sampling and Evaluating Airborne Asbestos Dust", Certificate # 5 PSI 87761 NI, AAR # 7523.